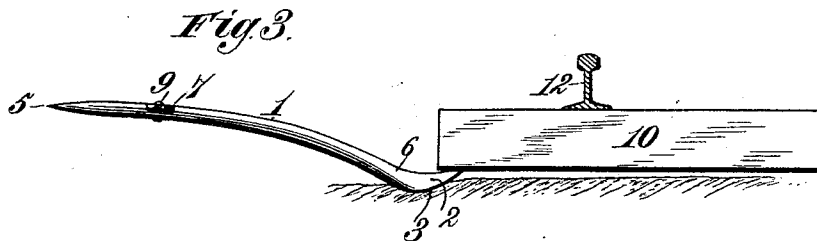
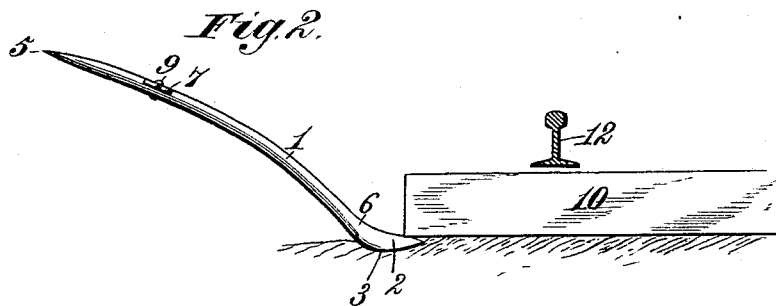
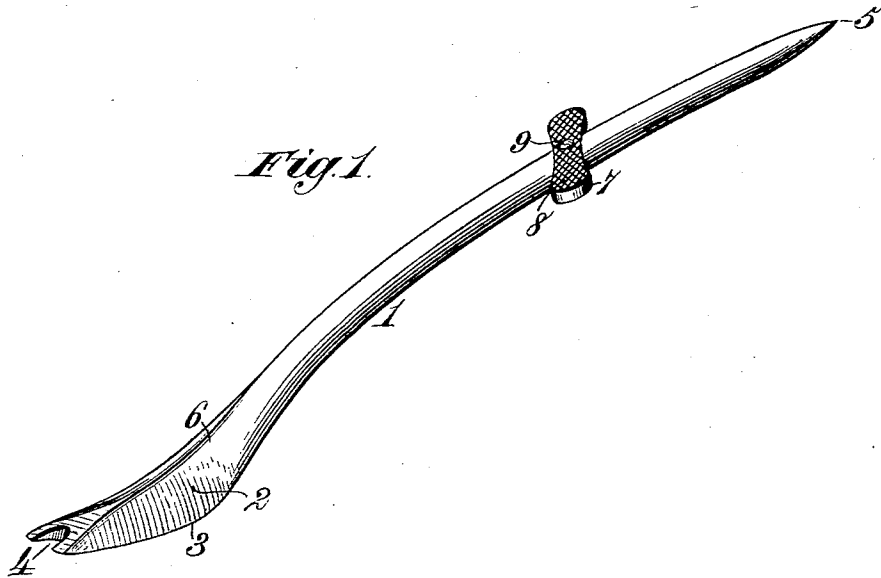


(No Model.)

O. E. DUNAWAY & D. N. JONES.
SPIKE EXTRACTOR AND RAILWAY TIE LIFTER.

No. 569,552.

Patented Oct. 13, 1896.



Witnesses.
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UNITED STATES PATENT OFFICE.

OSCAR E. DUNAWAY AND DANIEL N. JONES, OF HARDAWAY, ALABAMA.

SPIKE-EXTRACTOR AND RAILWAY-TIE LIFTER.

SPECIFICATION forming part of Letters Patent No. 569,552, dated October 13, 1896.

Application filed May 2, 1896. Serial No. 590,049. (No model.)

To all whom it may concern:

Be it known that we, OSCAR E. DUNAWAY and DANIEL N. JONES, citizens of the United States, residing at Hardaway, in the county of Macon and State of Alabama, have invented new and useful Improvements in Spike-Extractors and Railway-Tie Lifters, of which the following is a specification.

This invention has for its object to provide a novel, simple, efficient, and economical device or instrument designed for extracting spikes and raising and holding railway-ties against the bases of railway-rails during the time the latter are secured by spikes to the ties.

The improved spike-extractor and tie-lifter is composed, essentially, of a curved shank, preferably circular in cross-section and having at one end a claw-foot constructed with a broad or widened base surface or tread, at the other end a sharp, penetrating point, and intermediate the ends a cross-arm constituting a foot-rest, the construction being such that the claw-foot can be used to extract railway-spikes when necessary, and can be placed under a railway-tie to lift and hold the tie against the base of a railway-rail, so that the workman using the device can raise the tie, place a foot upon the foot-rest to hold the tie against the base of the rail, and employ his hands to spike the rail to the tie, thereby dispensing with the services of one or more workmen, as ordinarily at least two workmen are necessary to hold the tie elevated against the rail-base and apply the spikes, one workman placing a crowbar or similar device under the tie to raise the latter against the rail and sitting on the crowbar to hold the tie elevated, while the other workman drives the spikes which secure the rail to the tie.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of our improved crowbar or device for extracting spikes and raising and holding railway-ties against railway-rails during the spiking operation. Fig. 2 is a detail sectional view of a portion of a railway, showing the improved extractor and lifter arranged in position at one end of a tie preparatory to elevating and lifting the latter against the base of the rail; and Fig. 3 is a similar view showing the extractor and

lifter depressed to raise and hold the tie against the base of the rail.

In order to enable those skilled in the art to make and use our invention, we will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates the shank of the instrument. This shank is preferably circular in cross-section, and in practice is about one and a half inches in diameter and three feet in length; but of course the dimensions may be varied, if desired.

The cylindrical shaft is constructed at one end portion with a widened foot-piece 2, having a flattened broad base-surface or tread 3, designed to rest upon the ground without liability of unduly sinking thereinto. The extremity of the foot-piece is bifurcated or forked to provide a claw 4 for extracting railway-spikes whenever necessary. The end portion of the shank, opposite the broadened or widened foot-piece, is tapered to a sharp, penetrating point 5, designed to be forced or stuck into a wooden railway-tie 10 to facilitate shifting the latter, as may be required, to place it in proper position preparatory to raising and holding it against the base of a railway-rail 12, so that the rail and tie can be connected by spikes as usual.

The cylindrical shank is curved longitudinally in the arc of a circle of considerable radius, so that the instrument is given the best form for its convenient manipulation in raising and holding the tie against a rail.

The shank at the point where it joins the broadened or widened foot-piece is constructed with a somewhat abrupt bend or crook 6, so that the shank in fact rises upward from the foot-piece for the purpose of enabling the foot-piece to be inserted under a railway-tie, and the shank subsequently depressed to lie against or in proximity to the ground, thereby raising the tie and holding it against the base of the rail during the time that the rail is being secured to the tie by the usual railway-spikes.

It will be obvious that in some cases the shank requires to be depressed a greater distance than in other cases, according to the distance or height that the tie requires to be elevated, and with this in view the shank is curved and provided with the upward bend

or crook, hereinbefore explained, which elevates the pointed extremity of the shank when the foot-piece is first introduced under the tie and secures the necessary range of movement to suit whatever conditions may be required.

The cylindrical shank is provided at a point in proximity to the sharpened extremity with a cross-arm 7, having a corrugated top surface 8. The cross-arm is preferably arranged obliquely across the shank and is secured thereto by a bolt, pin, or rivet 9. As shown, the cross-arm is mortised into the shank; that is to say, the shank is constructed in its upper surface with a transverse groove or recess, and the cross-arm is set into this groove or recess and there secured by the bolt, pin, or rivet. The cross-arm is so applied and secured that it extends laterally from the sides of the shank, and these lateral extensions are approximately equal. It is preferable to widen the extremities of the cross-arm, and thus provide a somewhat contracted or narrow intermediate portion which lies in the transverse groove or recess of the shank, as will be obvious.

We do not wish to be understood as confining ourselves to the attachment of the cross-arm to the shank through the medium of the bolt, pin, or rivet, as obviously the cross-arm can be otherwise permanently or rigidly secured in position.

The cross-arm is designed as a foot-rest, so that after the workman has inserted the broadened or widened foot-piece under the railway-tie and depressed the shank to lift or raise the tie he can place one foot upon either lateral extension of the cross-arm and hold the shank depressed while he uses his hands to drive the spikes employed to attach the railway-rail to the railway-tie.

By this improved instrument the expense incident to constructing or repairing railways is materially reduced, in that the services of one or more workmen are dispensed with in spiking railway-rails to the cross-ties. The usual operation of raising a railway-tie and spiking it to the rail requires the services of at least two workmen, one to hold the tie elevated against the rail-base by sitting on a crowbar placed under the tie, while the other drives the spikes. The employment of our improved spike-extractor and tie-lifter enables a single workman to raise the tie against the rail and drive the spikes, because the tie can be held against the base of the rail by placing one foot upon the cross-arm of the shank, thus enabling the workman to stand in a position convenient to use his hands in driving the spikes through the rail into the tie.

The sharp penetrating point formed by

tapering one extremity of the shank is very useful for the purpose of moving or shifting the ties in proper position to be raised and held against the bases of the rails. The penetrating point can be forced or stuck into the wooden tie and the shank then used as a lever to move or shift the tie to the proper position, and subsequently the penetrating point can be disengaged from the tie and the shank used, as hereinbefore explained, to raise and hold the tie against the base of the rail during the spiking operation.

The broadened or widened base-surface or tread 3 of the foot-piece is important, in that it prevents the foot-piece from unduly sinking into the ground when the instrument is used as a lever to raise the tie against the rail. The spike-extractor, forming a part of the broadened or widened base, is desirable, in that it enables the one instrument to be used for extracting railway-spikes whenever necessary.

The cross-bar extends, as before stated, from opposite sides of the shank and forms two angles, into either of which a foot of the workman can be placed. The projecting ends of the cross-bar effectually prevent the foot from slipping lengthwise of the shank when the latter is depressed and the foot of the workman is engaged with the cross-bar to hold the tie elevated against the rail-base.

In the drawings we have illustrated the instrument applied under one end of the top railway-tie for raising the latter against the rail-base, but obviously the instrument can be engaged with the tie at any desired point.

The improved device is very simple and economical of construction and in practical use will be found very efficient and satisfactory.

Having thus described our invention, what we claim is—

A spike-extractor and railway-tie lifter, consisting of a curved shank having at one end a foot-piece constructed with a claw and a broadened or widened base-surface or tread, at the other end a sharp, penetrating point, and intermediate the ends, in juxtaposition to the penetrating point, a cross-arm which constitutes a foot-rest for the workman to hold the shank depressed while spiking the rail to the tie, substantially as and for the purposes described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

O. E. DUNAWAY.
D. N. JONES.

Witnesses:

W. W. CAMPBELL,
G. C. WRIGHT.