M. E. SHAFFER.

SPIKE PULLER.

APPLICATION FILED JUNE 20, 1910.

1,028,291. Patented June 4, 1912.

Fig. 1.

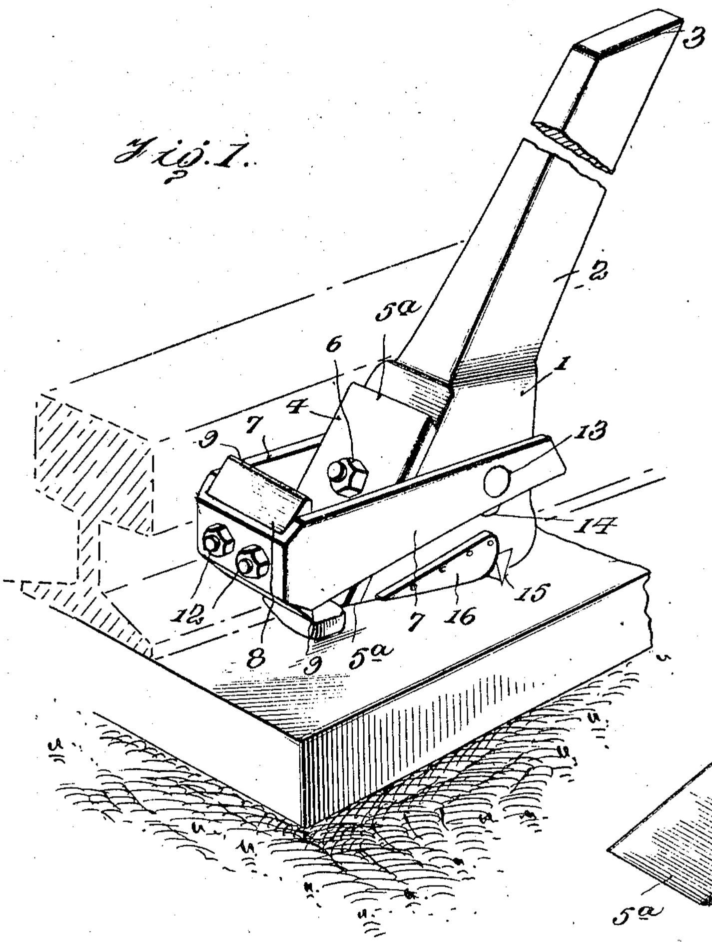


Fig. 4.

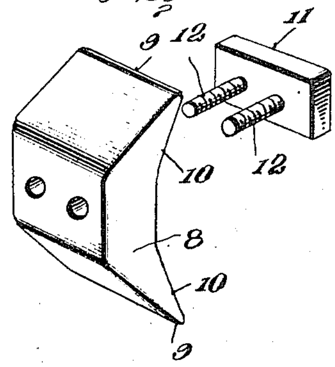


Fig. 3.

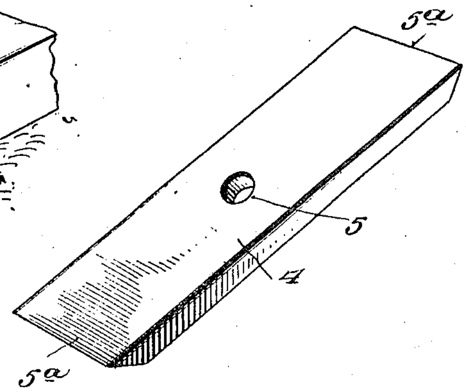


Fig. 5.

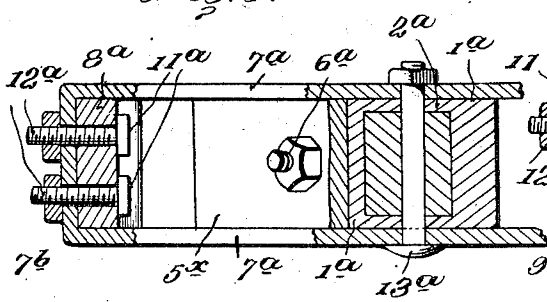
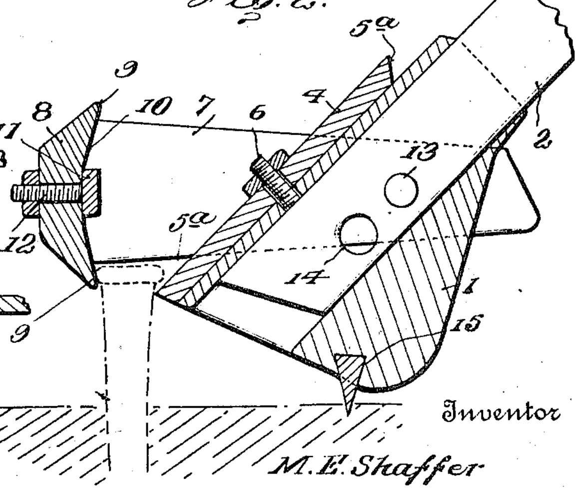


Fig. 2.



Witnesses

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SPIKE-PULLER.

1,028,291. Specification of Letters Patent. Patented June 4, 1912.

Application filed June 20, 1910. Serial No. 568,029.

To all whom it may concern:

Be it known that I, MACARIUS E. SHAFFER, a citizen of the United States, residing at Mount Savage, in the county of Allegany and State of Maryland, have invented certain new and useful Improvements in Spike-Pullers, of which the following is a specification.

This invention comprehends certain new and useful improvements in devices for extracting railway and other spikes, and the invention has for its primary object a simple, durable and efficient construction of spike puller composed of comparatively few parts that may be cheaply manufactured and easily assembled, which may be adjusted for different sizes of spikes and sundry of the parts reversed in case they become worn, thereby increasing the usefulness of the device, and which may be easily manipulated to extract the spikes with a minimum amount of time and labor.

With this and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view illustrating one application of my improved spike puller, the handle being broken out in view of limited space; Fig. 2 is a vertical sectional view of the operative end of the device; Fig. 3 is a detail perspective view of the reversible blade employed; Fig. 4 is a similar view of a block and an abutment employed in connection with the blade and arranged to coact therewith in the extraction of a spike; and, Fig. 5 is a partial plan and partial horizontal sectional view of a modified form of the device hereinafter specifically described.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The head 1 of my improved spike puller may be either solid or hollow as judgment may dictate or the requirements of manufacture demand, being shown in the present instance as a hollow casting formed to receive the lower end of the handle 2, said handle being detachably held within the head 1, whereby it may be removed therefrom whenever desired and used independently as a crow-bar or other tool. For this purpose, either or both ends of the handle 2 may be beveled, as indicated at 3 in Fig. 1.

A blade 4, preferably of steel, is formed intermediate of its ends with an aperture 5 designed to receive a bolt 6 projecting from the forward face of the head 1, whereby said blade is securely attached to the head and is capable of being reversed thereon end for end in case one of its beveled ends 5^a should become dulled or otherwise injured in use.

Coacting with the blade 4 of the device, is a yoke which in that embodiment of the invention illustrated in Figs. 1 and 2, embodies side arms 7 and a block 8 mounted between the arms at one end thereof and constituting a cross bar for the yoke. The block 8 may be either formed integral with the arms 7 or riveted or otherwise securely fastened thereto. Each end of the block is tapered preferably to an edge as indicated at 9, said edges projecting beyond the side edges of the arms 7 and serving as jaws to coact with the adjacent beveled end of the blade 4 to engage the spike and securely grip the same as the head 1 is rocked to extract the spike. Preferably the inner face of the block 8 is inwardly beveled from each edge jaw 9, as best illustrated at 10 in Figs. 2 and 4.

Preferably, I employ in connection with the block 8 an abutment block 11 which in that form of the invention illustrated in Figs. 1, 2 and 4, is composed of a transversely extending block secured to the inner face of the block 8 at the middle thereof by stud bolts 12 projecting from the abutment and passing through the block 8 and secured to the latter by nuts screwing on the bolts, or other fastening devices.

A bolt 13 serves to connect the handle 2 with the head 1 and to pivotally connect the head to the side arms 7 of the yoke. Preferably, provision is made for adjustably connecting the yoke to the head, the means employed for this purpose in the present instance consisting of a plurality of openings 14 formed in the side walls of the head any one of which is designed to receive the transversely extending bolt 13, whereby the operative jaw 9 may be brought nearer to or farther away from the lower

end of the blade 4 according to the size of the spike to be extracted.

If desired, a spur 15 may be secured in the head 1 projecting below the lower wall thereof and extending from one side of the head to the other, the spur serving to assist in holding the device stationary, and being found useful, if it be desired to use the head 1 in connection with the handle 2 as a prying device, without the yoke.

In order to limit the upward movement of the front end of the head relative to the yoke, the head may be provided on its side walls with ledges 16 designed for engagement by the lower edges of the arms 7.

It is to be understood that my invention is not limited to the precise construction, arrangement and proportions of the parts illustrated in Figs. 1 to 4, but that various changes may be made without departing from the scope of the invention as defined in the appended claims. For instance, reference is to be had to Fig. 5, wherein one modification is illustrated. In this view, 1^a designates the head of the device, 2^a the handle, 5^x the blade secured to the head by a bolt 6^a, and 13^a the pivot bolt, all of these parts being substantially like their correspondingly numbered parts in that form of the invention first herein described. The modification consists in the yoke which, in addition to the side arms 7^a, includes a cross bar 7^b distinct from the block 8^a, said block being secured to the cross bar by bolts 12^a and nuts screwing thereon, and the heads 11^a of the bolts serving as the abutment blocks of the device in lieu of the blocks 11 shown in detail in Fig. 4.

From the foregoing description in connection with the accompanying drawings, the operation of my improved spike puller will be apparent. For example, if the device be used to extract rail spikes, the head of the spike will be received in between the lower beveled end 5^a of the blade 4 and the handle 2 will be drawn down so as to rock the head 1 and cause the lower jaw 9 and lower edge of the blade 4 to tightly engage opposite sides of the head of the spike, a continued downward pressure on the handle serving to partially or completely withdraw the spike. If the spike is of such a length that a single pull, with the parts engaged as just described, will not completely pull the spikes without moving the upper or free end of the handle 2 down so close to the rail as to render further movement impossible, or at least unhandy or uncomfortable to the operator, the handle should be given a slight upward swing to release the jaw 9 and blade 4 from the spike head, the abutment blocks 11 or 11^a being then brought into play by slipping the yoke downwardly until the abutment blocks and the lower end of the blade tightly pinch between them the spike either at the head or below the latter, whereupon a second downward swing on the handle 2 will effect the complete withdrawal of the spike.

It is to be noted that the side arms 7 of the yoke extend along opposite side edges of the blade 4 and hence serve to assist in holding the blade from turning, only one fastening device being thereby necessary to secure the blade to the head.

If one end of the blade 4 becomes dulled, it is obvious that it may be easily reversed end for end. Should one of the jaws 9 become dulled, it is only necessary to withdraw the bolt 13 and reverse the yoke.

Having thus described the invention, what is claimed as new is:

1. A spike puller, comprising a head, a blade carried by the head and pivotally connected thereto intermediate of the ends of the blade, and a yoke provided with a jaw coacting with the blade and embodying side arms pivotally connected to the head and extending along opposite side edges of the blade, whereby to assist in holding the blade from turning.

2. A spike puller, comprising a head, a blade carried by the head, a yoke pivotally connected to the head, the yoke embodying side arms extending on opposite sides of the head, and a block formed with two oppositely extending jaws adapted to coact with the blade, and an abutment block connected to the first-named block, the upper and lower edges of the abutment block being spaced from the adjoining and corresponding edges of the blade.

3. A spike puller, comprising a hollow head, a blade carried by the head, a yoke pivotally connected to the head and provided with a jaw adapted to co-act with the blade, a transverse bolt serving as the means for pivotally connecting the yoke to the head, and a handle inserted in the head and held therein by said bolt.

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

MACARIUS E. SHAFFER. [L. S.]

Witnesses:
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