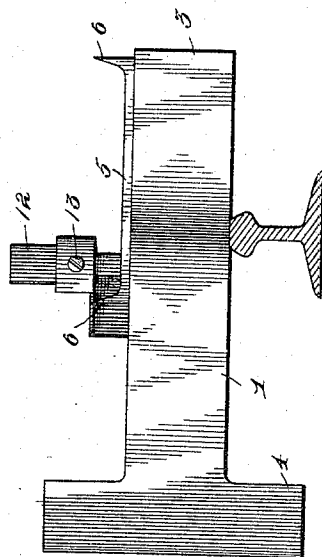
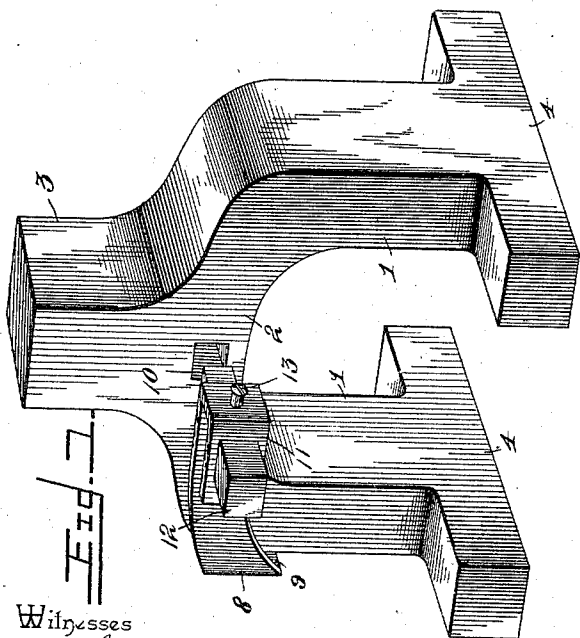
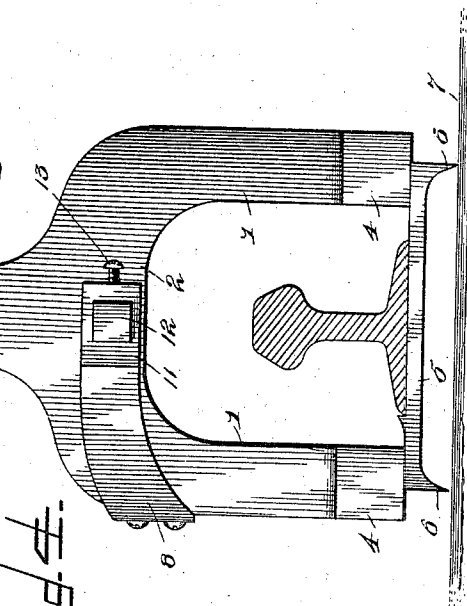
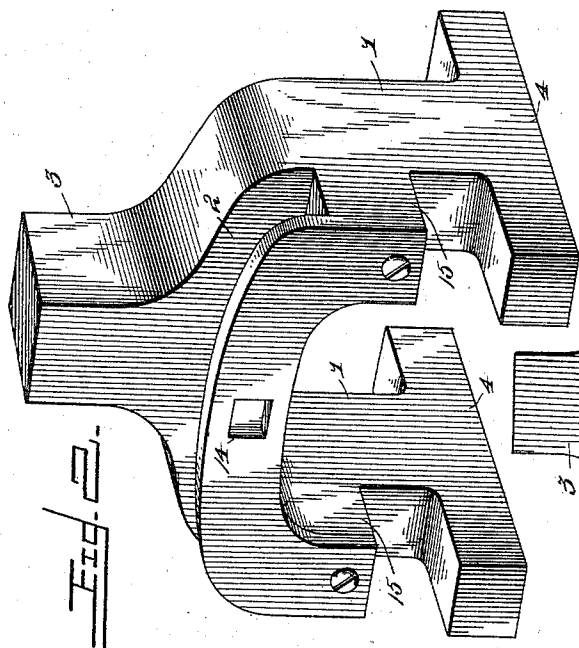


(No Model.)

W. R. FUNK & A. G. HENRY.
TIE PLATE SET AND PUNCH.

No. 580,486.

Patented Apr. 13, 1897.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM R. FUNK AND ARTHUR G. HENRY, OF MCFARLAND, KANSAS.

TIE-PLATE SET AND PUNCH.

SPECIFICATION forming part of Letters Patent No. 580,486, dated April 13, 1897.

Application filed July 21, 1896. Serial No. 600,019. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM R. FUNK and ARTHUR G. HENRY, citizens of the United States, residing at McFarland, in the county of Wabaunsee and State of Kansas, have invented a new and useful Tie-Plate Set and Punch, of which the following is a specification.

This invention relates to tie-plate sets, and the object in view is to provide a device of this character which will enable the force of a blow to be divided equally upon the opposite ends of a tie-plate, to the end that the latter may be driven into place evenly and without tilting the same, thus obviating the liability of permanently injuring the fiber of the cross-tie, which would eventually result in the loosening of the tie-plate.

A further object of the invention is to provide, in connection with such tie-plate set, a punch-holder whereby the same device which is used for driving the tie-plates into the ties may also be employed for punching holes in the tie-plate or the joint-plates, whereby each plate may be accurately fitted to its respective place.

The invention consists in a combined tie-plateset and punch embodying novel features and details of construction, as hereinafter particularly set forth, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a combined tie-plate set and punch constructed in accordance with this invention. Fig. 2 is a similar view showing a different form of punch-holder. Fig. 3 is an elevation showing the manner of using the punch. Fig. 4 is a similar view illustrating the manner of setting a tie-plate.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

The improved tie-plate set contemplated in the present invention is made in the form of the letter U, comprising spaced and substantially parallel arms 1, connected by means of a yoke or fork-crown 2, the latter being provided at its top and center with an upwardly-extending poll 3, adapted to receive the blow of a driving-sledge. The arms 1 are provided at their bottom ends with feet 4, which extend at right angles to the arms 1 and par-

allel to each other. These feet are located at a distance apart which will adapt them to rest on the opposite ends of a tie-plate, (indicated at 5, and as shown in Fig. 4.) When the parts are in the position indicated in said figure, the force of a blow struck on the poll 3 will be distributed equally upon the opposite ends of the tie-plate 5, and the spurs 6 of said plate will be simultaneously driven with equal force into the tie 7 without injuring the fiber thereof, as would be the case where one end of the tie-plate is first driven in and then the other end. A tie-plate driven home in this manner will be more firmly embedded in the tie and there will be much less liability of its displacement.

Upon one side of the yoke or crown 2 is arranged a spring-arm 8, attached at one end 9 to one arm of the tie-plate set and having its free end arranged in front of a central opening 10 in said yoke or crown. The free end of the arm 8 is recurved or bent back upon itself to form a parallel portion 11, and this portion, together with the main body of the arm, is perforated to receive the shank of a die or punch 12 of any desired form. Two bearing-points are thus made for the punch 12, and a set-screw 13 is passed through the end of the arm 8, which forms the punch-holder, said screw bearing at its inner end against the punch and serving to retain the latter in place.

The feet 4 extend laterally from the arms 1 to a distance substantially equal to the height of an ordinary rail in order that when the tie-plate set is used as an anvil the feet may be supported by the sleeper and the poll by the head of the rail. If, however, the feet 4 should not be long enough to rest directly on the sleeper, a block of wood may be placed between the feet and the sleeper, as will be readily understood.

In operation the tie-plate set is turned into a horizontal position with the poll 3 resting on the head of a rail, as shown in Fig. 3. The tie-plate or joint-plate, as the case may be, is now placed between the end of the punch and the crown 2 and brought into the proper position. A blow on the head of the punch 12 will now drive the end of the latter through the tie-plate and form the opening therein at the desired point, the spring-arm

8 or punch-holder yielding to allow the necessary movement of the punch and afterward returning to its normal position by reason of its elasticity, carrying with it the
 5 punch and leaving the tie-plate free to be removed. If desired, the punch-holder may be made in the form of a rigid arm or plate 14, connected fixedly at both ends to spaced lateral lugs or bosses 15 on the arms 1, as
 10 shown in Fig. 2, in which event the punch 12 will move bodily through an opening in said holder opposite the opening 10 in the crown 2.

The combination device above described is
 15 exceedingly simple and inexpensive in construction and has been found to be of great value and assistance in the building or repairing of railway-tracks, as it not only effects the proper setting of the tie-plates, but
 20 also enables said plates, as also the joint-plates, to be punched at the proper points to enable them to fit into their respective places.

It will be understood that the device is susceptible of changes in the form, proportion,
 25 and minor details of construction, which may accordingly be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what
 30 is claimed as new is—

1. A tie-plate set having spaced arms adapted to straddle a railway-rail, the two arms being connected at their upper ends by a crown or yoke, and each provided at its lower end
 35 with a laterally-widened foot, whereby the

set may be supported in a horizontal position by a rail and sleeper to form an anvil, the crown or yoke being provided with a die-opening, and a punch-holder attached to the tie-set to support the punch in alinement with
 40 the said die-opening, substantially as described.

2. A tie-plate set, comprising spaced arms adapted to straddle a railway-rail and each provided with a laterally-widened foot adapted
 45 to rest upon one end of a tie-plate, the said arms being connected at their opposite ends by a crown or yoke, and terminating at the top in a centrally-located poll adapted to receive the blow of a sledge, substantially as
 50 described.

3. The combination with an anvil having a die-opening, of a spring-arm or punch-holder attached to said anvil and having its free end bent back and provided with an opening
 55 for the punch, the main body of the holder being also provided with a corresponding and alining opening, a punch mounted in said openings, and a retaining device for holding said punch in place, substantially as de-
 60 scribed.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM R. FUNK.
 ARTHUR G. HENRY.

Witnesses:

EDWIN E. POWELL,
 GEORGE KEAFOURS.