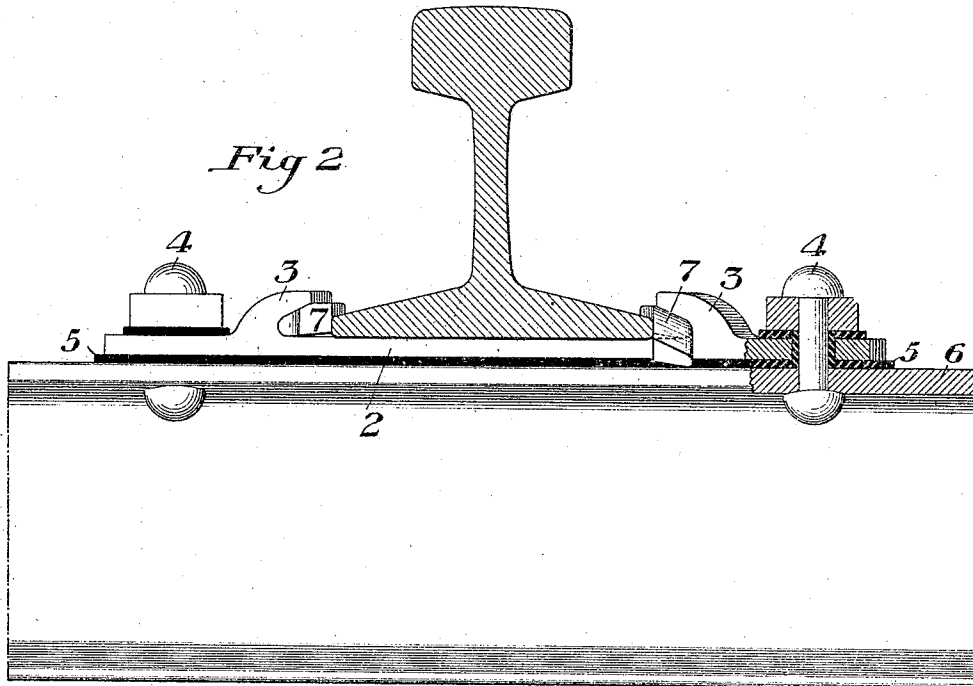
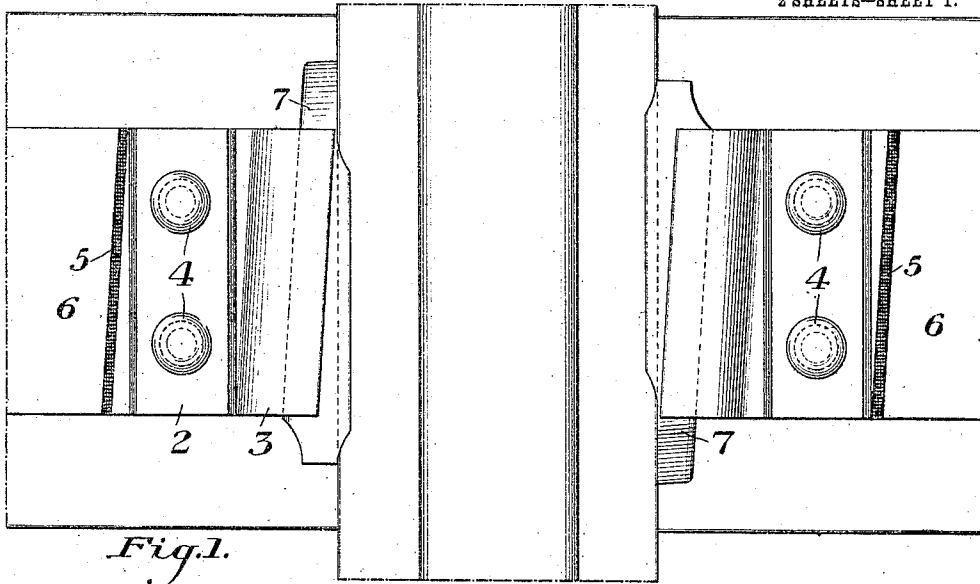


E. E. SLICK.
RAIL FASTENING.
APPLICATION FILED FEB. 28, 1907.

950,080.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 1.



WITNESSES

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R. D. Little.

INVENTOR

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by H. A. C. Dymes
his atty.

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2 SHEETS—SHEET 2.

Fig. 3.

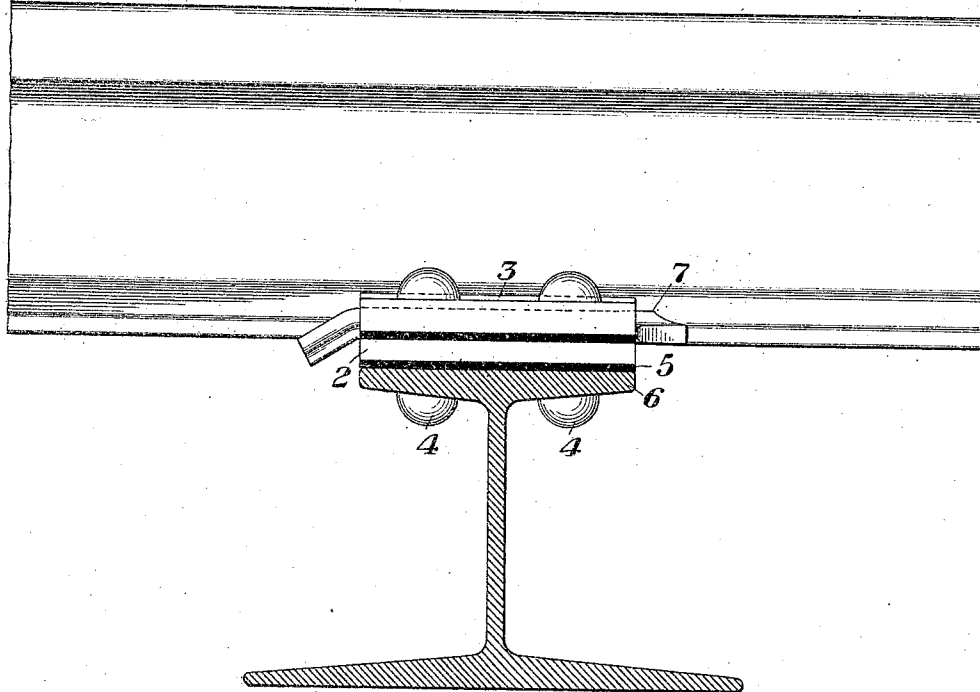
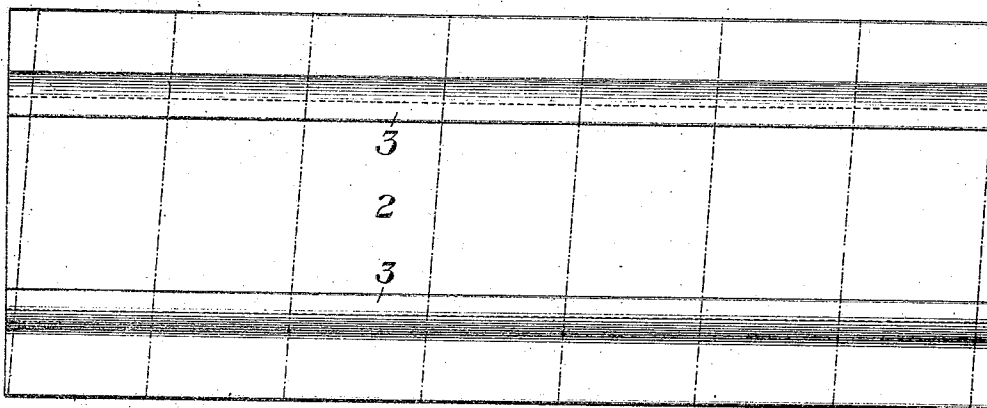


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWIN E. SLICK, OF PITTSBURG, PENNSYLVANIA.

RAIL-FASTENING.

950,080.

Specification of Letters Patent. Patented Feb. 22, 1910.

Application filed February 28, 1907. Serial No. 359,862.

To all whom it may concern:

Be it known that I, EDWIN E. SLICK, of
Pittsburg, Allegheny county, Pennsylvania,
have invented a new and useful Rail-Fasten-
ing, of which the following is a full, clear,
and exact description, reference being had to
the accompanying drawings, forming part
of this specification, in which—

Figure 1 is a top plan view showing my
improved fastening in position; Fig. 2 is a
cross-section of the rail, showing the fasten-
ing in position; Fig. 3 is a partial cross-
section of the steel tie, provided with the
fastening; and Fig. 4 is a plan view show-
ing the method of rolling and severing the
tie plates.

My invention relates to the securing of
rails to ties; and particularly to steel or iron
ties.

The object of the invention is to provide
a fastening by which the rail may be se-
cured without the use of bolts or rivets
which must be adjusted or removed in re-
moving or replacing the rail and fastening.

A further object of the invention is to
provide an iron or steel tie with a fastening
device which may be permanently secured
thereto at the point of manufacture, while
the rail may be held thereby without the use
of any securing bolts or rivets which are
applied when the rail is put in place.

A further object is to provide a quick and
easy means for adjusting the rail sidewise.

To that end, the invention consists in se-
curing clips or flanges which extend at an
angle to the rail and are spaced a sufficient
distance apart to allow the rail to be inserted
without endwise threading thereof; and also
in providing wedge-sections which shall be
inserted in both sides of the rail base to
secure the rail in place.

A further object is to provide a tie plate
having securing flanges, which plates may
be rolled in multiple lengths and the plates
sheared or otherwise cut therefrom at an
angle other than a right angle, thus enabling
oppositely-driven wedges to be used in fasten-
ing the rail.

In the drawings, referring to Fig. 4, I
show the preferred form of making my im-
proved tie-plate. In its manufacture I roll
a length of blank 2, having parallel flanges
3, 3 projecting from one face thereof and

arranged preferably inside of the side edges
of the blank. The blank is then severed
transversely on the dotted lines, thus giving
the improved tie-plate. In using these plates
with metal ties, they are preferably riveted
to the ties at the place of manufacture, as
shown in Figs. 1, 2 and 3, wherein 4 are the
securing rivets extending through the plates
through a layer of insulation shown at 5,
and through the top flanges 6, 6, of the
I-beam form of tie here shown. These rivets
may be provided with insulating thimbles
to insulate the rail and plate from the tie.
The width of the space between the tie-plate
flanges is such that the rail may be dropped
into place from above and preferably wide
enough so that it may be so inserted without
swinging the rail or tie to a position other
than its final one. When the rail is dropped
into place, the wedge-shaped keys 7 are
driven in between the tie-plate flanges and
the rail-base, these being inserted from op-
posite sides. By loosening one key and driv-
ing in the other the rail may be adjusted
sidewise as desired; and to secure the wedges
in place I then preferably bend down their
smaller projecting ends on the opposite sides
of the tie-plate, as shown in Fig. 3. These
keys are preferably recessed on their inner
edges to lap over or fit upon the base flanges
of the rail, and are made of such a width
that their forward ends will protrude far
enough to bend down when they are driven
to proper position.

The advantages of my invention will be
clear to those skilled in the art. The plates
may be cheaply and easily manufactured,
either by rolling them with the flanges bent
in the desired form and then cold-sawing
on the dotted lines of Fig. 4; or by rolling
them with the flanges projecting at right
angles to the surface and then shearing the
sections on the dotted lines and bending
down the flanges to the desired shape. There
being no bolts or rivets to remove or apply
in removing or applying the fastening to
the rail, such operations may be done
quickly and easily. The bending down of
the keys gives a permanent securing means
which cannot work loose in the manner of
nuts; while the fastening may be easily de-
tached by bending up this end of the key
and knocking the key out. The plate may

be secured to the steel tie at the point of manufacture, so that the only loose securing parts are the keys.

Instead of forming a tie-plate with the projecting flanges thereon, these clips or flange-portions may be formed on separate pieces and separately secured to the top of the tie in the same relative position as that shown; in which case the rail might rest upon the top of the tie itself. The method of forming the parts may also be varied, and other variations may be made without departure from my invention.

I claim:—

1. In a rail fastening, a tie plate secured to a tie and having an integral lug on its upper surface at each side of the rail, said lugs extending at an angle to the longitudinal axis of the rail and a tapering key driven between each of said lugs and the adjacent edge of the rail base, said lugs having their upper portions extending inwardly over the key seats to provide wedging surfaces for the upper faces of the keys, said keys having their lower inner surfaces out of contact with the top surface of the tie plate; substantially as described.

2. In a rail fastening, the combination with a metal tie, of a lug permanently secured to said tie at each side of the rail, said lugs extending at an angle to the longitudinal axis of the rail, and a tapering key driven between each of said lugs and the adjacent edge of the rail base, said lugs being inclined upwardly and inwardly over the key seats to provide wedging surfaces for the upper faces of the keys, said keys having their inner lower surfaces out of contact with the top surface of the tie; substantially as described.

3. A rail fastening comprising a tie plate having an integral lug on its upper surface on each side of the rail, the lugs extending at an angle to the longitudinal axis of the rail and oppositely facing keys driven between each of said lugs and the adjacent rail base, said lugs having their upper portions inclined inwardly over the key seats to provide wedging surfaces for the upper faces of the keys, the keys contacting with the top face and edges of the rail base to prevent edgewise and vertical movement of the rail and having their lower inner surfaces out of contact with the top surface of the tie; substantially as described.

4. In a rail fastening, the combination with a metal tie, of a lug permanently secured to said tie at each side of the rail, said lugs extending at an angle to the longitudinal axis of the rail, and a tapering key between each of said lugs and the adjacent edge of the rail base, said lugs being inclined upwardly and inwardly over the key seats to provide wedging surfaces for the upper

faces of the keys, the keys contacting with the top faces and edges of the rail base to prevent edgewise and vertical movement of the rail, said keys having their lower inner surfaces out of contact with the top surface of the tie; substantially as described.

5. In a rail fastening, a tie plate secured to a tie and having an integral lug on its upper surface at each side of the rail, said lugs extending at oppositely facing angles to the longitudinal axis of the rail and a tapering key driven between each of said lugs and the adjacent edge of the rail base, said lugs having their upper portions inclined upwardly and inwardly over the key sides to provide wedging surfaces for the upper faces of the keys, said keys having their lower inner surfaces out of contact with the top surface of the tie plate; substantially as described.

6. In a rail fastening, the combination with a metal tie, of a lug permanently secured to said tie at each side of the rail, said lugs extending at oppositely facing angles to the longitudinal axis of the rail, and a tapering key between each of said lugs and the adjacent edge of the rail base, said lugs having their upper portions extending upwardly and inwardly over the key seats to provide wedging surfaces for the upper faces of the keys, said keys having their lower inner surfaces out of contact with the top surface of the tie; substantially as described.

7. In a rail fastening, a tie plate arranged to be secured to a tie, said plate having lugs at each side of the rail and spaced apart therefrom, said lugs projecting above the upper faces of the rail base and a tapering key driven between each lug and the adjacent edge of the rail base, said keys having their lower inner surfaces out of contact with the top surface of the tie plate; substantially as described.

8. In a rail fastening, a tie plate arranged to be secured to a tie, said plate having lugs at each side of the rail and spaced apart therefrom, the lugs projecting above the upper faces of the rail base and a tapering key between each lug and the adjacent edge of the rail base, the rail base resting directly upon the body of the tie plate, said keys having their lower inner surfaces out of contact with the body of the tie plate; substantially as described.

9. A rail fastening comprising a tie plate arranged to be secured to a tie having means for insulating the tie plate from the said tie, said tie plate having lugs at each side of the rail projecting upwardly and inwardly above the upper faces of the rail base, and a tapering key engaging with one of said lugs for securing the rail to said tie plate, said key having its lower inner surface

out of contact with the top surface of the tie plate; substantially as described.

10. A rail fastening comprising a tie plate arranged to be secured to a tie having means
5 for insulating the tie plate from said tie, said tie plate having lugs extending at an angle to the longitudinal axis of the rail at each side of the rail, and projecting upwardly and inwardly above the upper surface
10 face of the rail base, and tapering keys be-

tween each lug and the adjacent edge of the rail base, said keys having their lower inner surfaces out of contact with the top surface of the tie plate; substantially as described.

In testimony whereof, I have hereunto set
my hand.

EDWIN E. SLICK.

Witnesses:

JOHN MILLER,
H. M. CORWIN.