

No. 635,500.

Patented Oct. 24, 1899.

W. E. MILLER.
TIE PLATE.

(Application filed Nov. 30, 1898.)

(No Model.)

Fig. 1.

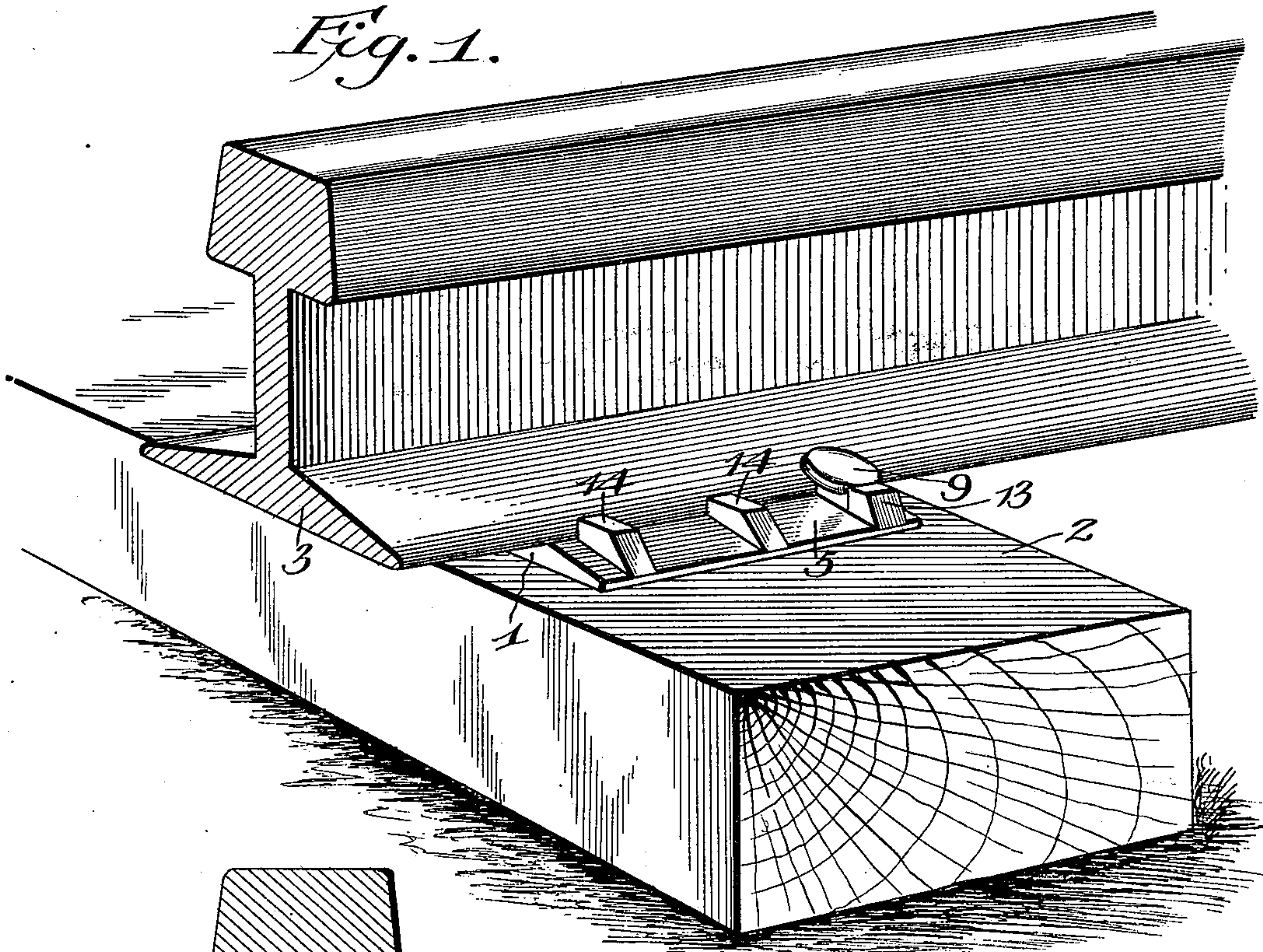


Fig. 2.

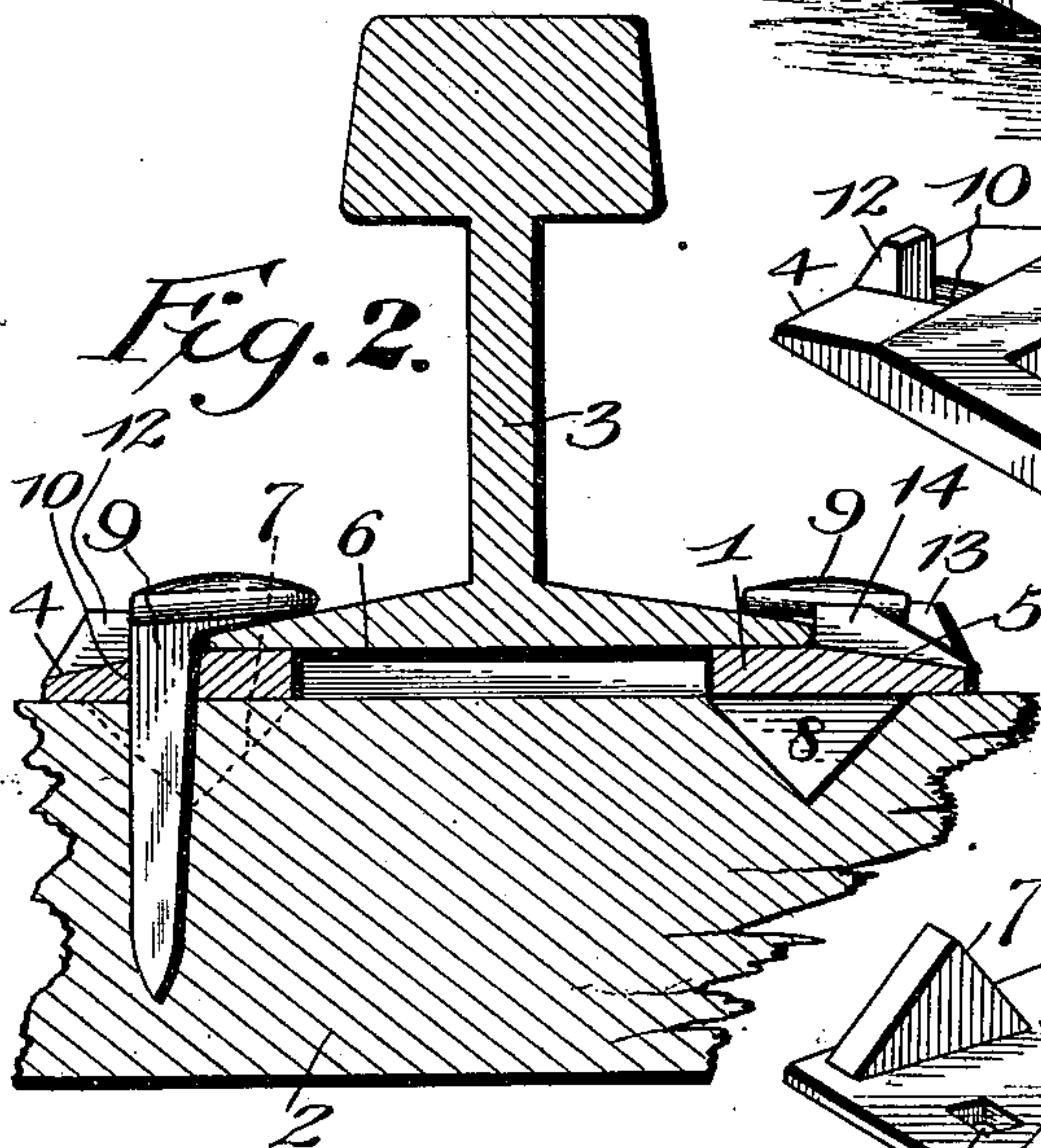


Fig. 3.

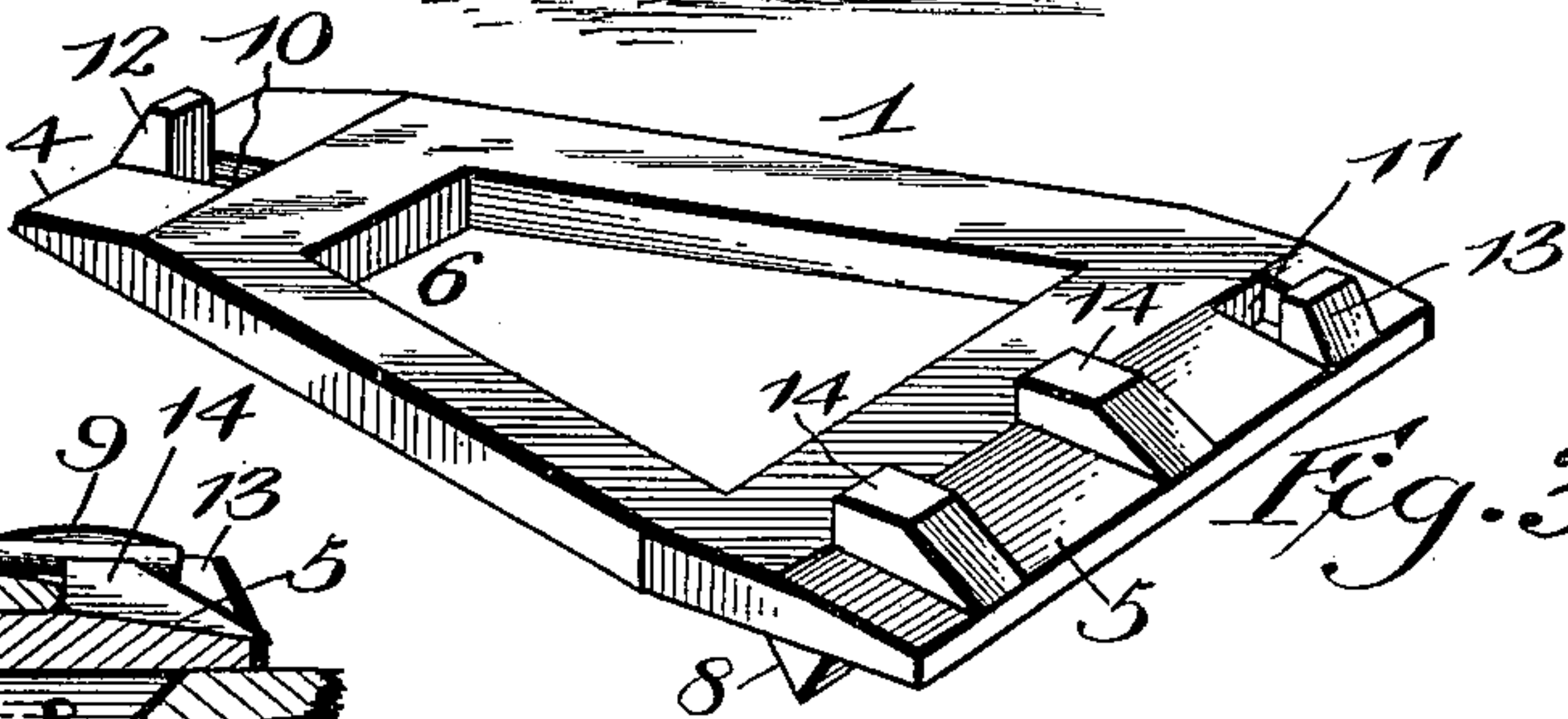
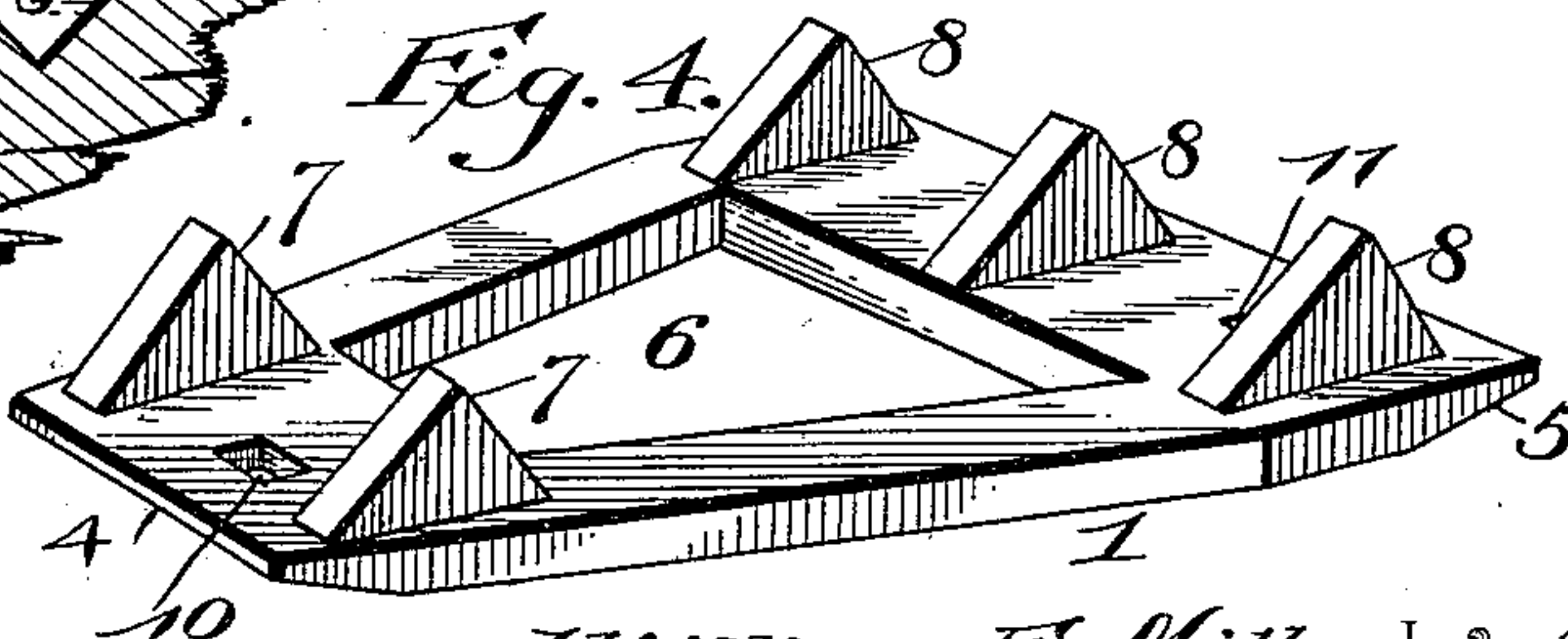


Fig. 4.



Witnesses

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WILLIAM E. MILLER, OF DENVER, COLORADO.

TIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 635,500, dated October 24, 1899.

Application filed November 30, 1898. Serial No. 697,858. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. MILLER, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Tie-Plate, of which the following is a specification.

The invention relates to improvements in tie-plates.

10 The object of the present invention is to improve the construction of tie-plates for securing railroad-rails to wooden cross-ties and to provide a simple, inexpensive, and efficient device adapted to support a rail against outward movement and capable of preventing sand from accumulating between it and the rail and causing excessive wear of the parts.

20 The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

25 In the drawings, Figure 1 is a perspective view of a tie-plate constructed in accordance with this invention and shown applied to a rail and cross-tie. Fig. 2 is a vertical sectional view taken transversely of the rail. Fig. 3 is a perspective view of the tie-plate detached. Fig. 4 is a similar view showing the 30 lower face of the tie-plate.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

35 1 designates a substantially triangular tie-plate designed to be arranged on a cross-tie 2 and interposed between the same and a rail 3, and its inner and outer ends 4 and 5 are beveled from the outer edges of the bottom flanges of the rail to shed sand and dirt and 40 to prevent the same from accumulating between the rail and the plate and producing a grinding action on the parts. The plate is provided with a central opening 6, and as it settles into the cross-tie the latter engages the 45 edges of the opening and assists in holding the tie-plate in position. Depending from the lower face of the plate are inner and outer series of triangular flanges or spurs 7 and 8, having their points located directly beneath 50 the edges of the bottom flanges of the rail and adapted to be forced into the wood lengthwise of the fiber thereof by the pressure upon

the rail when laying the latter. In replacing worn cross-ties with new ones the plates are driven into them by means of wooden mauls, 55 so that there is no liability of breaking or otherwise injuring the plates. The triangular flanges or spurs, which readily force themselves into the cross-tie, are formed integral with the plate and are arranged as clearly 60 illustrated in Fig. 4 of the accompanying drawings.

The tie-plate is secured to the cross-tie by spikes 9, located at the inner and outer ends of the same, at diagonally opposite corners 65 thereof, the plate being provided with rectangular spike-openings 10 and 11 and having supporting-lugs 12 and 13, located at the outer sides of the opening and adapted to guide a spike and cause the same to penetrate 70 the cross-tie in a perpendicular position, and it also facilitates the withdrawal of the spike. The outer end of the plate is provided with lugs 14, arranged to abut against the adjacent 75 edge of the bottom flange of the rail, and they relieve the spike of much of the strain and assist in supporting the rail and preventing it from moving outward. The lugs 12, 13, and 14, which have vertical inner engaging 80 faces, are beveled at their outer ends, as shown, to assist in preventing the accumulation of sand and other matter.

The invention has the following advantages: The tie-plate, which is simple and comparatively inexpensive in construction, is 85 adapted to be readily applied to a rail and the cross-tie, it is capable of supporting the former and of preventing it from moving outward, and it is adapted to avoid the accumulation of sand and other matter between the 90 rail and it and of preventing the grinding and wearing action resulting from such accumulation. The depending triangular flanges or spurs are located at the sides of the bottom 95 flanges of the rail and are adapted to be forced into the wood of the cross-tie by the pressure upon the rails.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing 100 any of the advantages of this invention.

What is claimed is—

A device of the class described comprising a plate adapted to receive a rail, provided be-

neath the same with a large opening to receive
the cross-tie and having its ends beveled at
opposite sides of the rail to shed sand and
prevent the same from accumulating beneath
5 the said rail, said plate being provided at op-
posite sides of the rail with spike-openings,
the lugs 12 and 13 located at the outer sides
of the spike-openings, the lugs 14 located at
the outer end of the plate and arranged to
10 support the outer edge of the bottom flange

of the rail, and triangular spurs depending
from the inner and outer ends of the plate,
substantially as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in 15
the presence of two witnesses.

WILLIAM E. MILLER.

Witnesses:

C. A. PARSON,

A. D. ALLEN.