

(No Model.)

T. F. PHILIPPI.  
RAIL JOINT.

No. 602,102.

Patented Apr. 12, 1898.

Fig. 1.

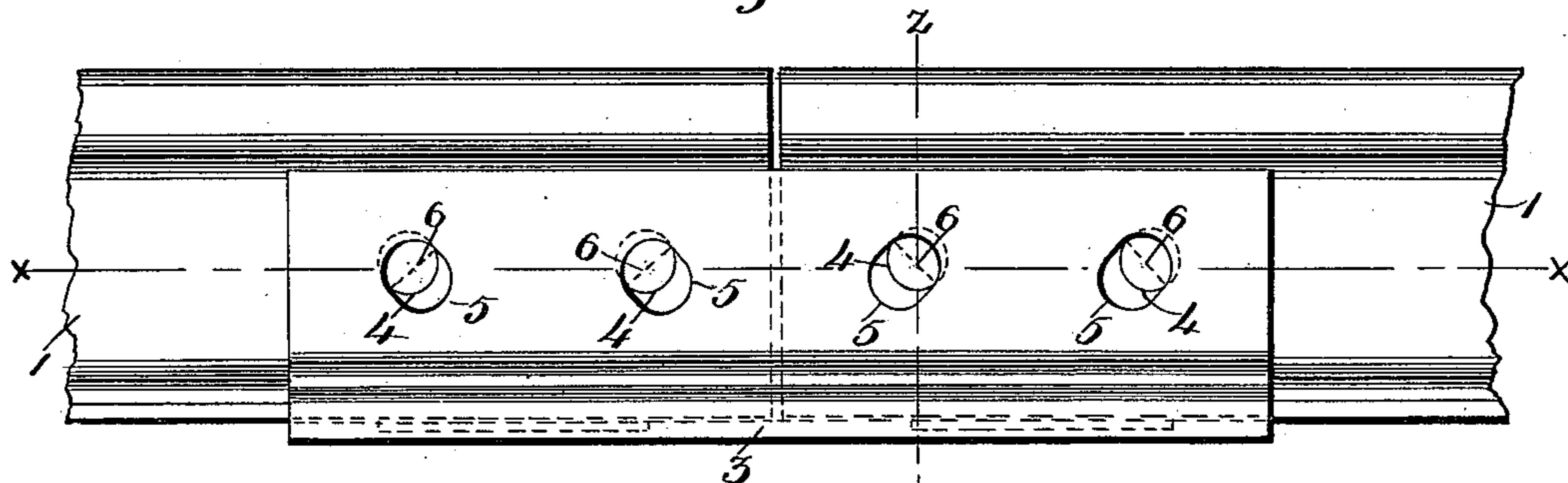


Fig. 2.

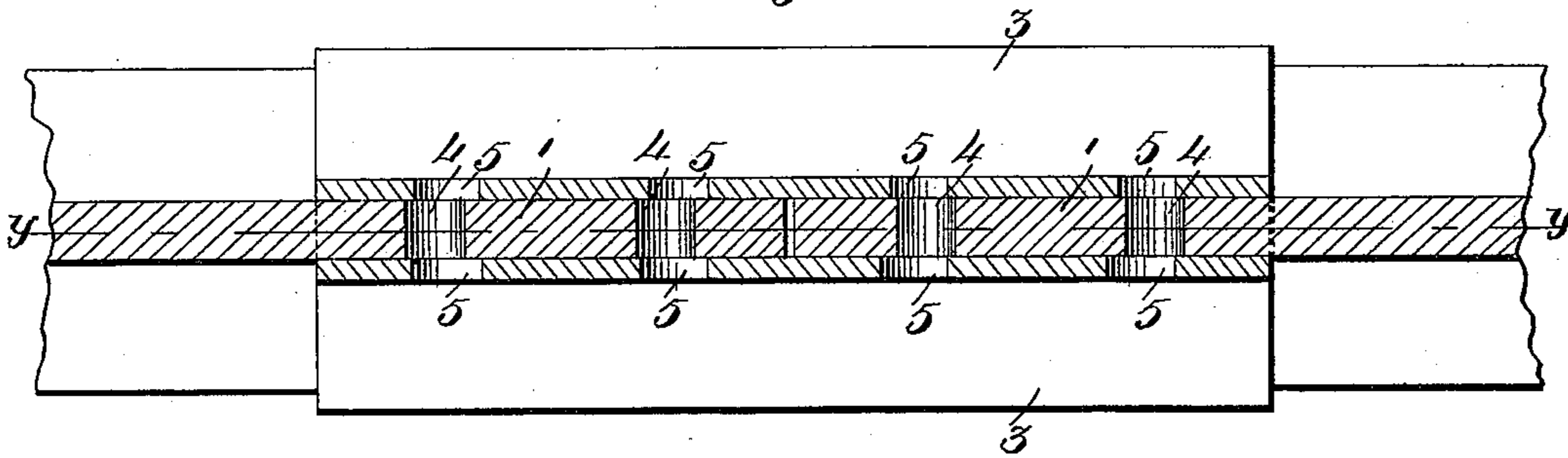


Fig. 3.

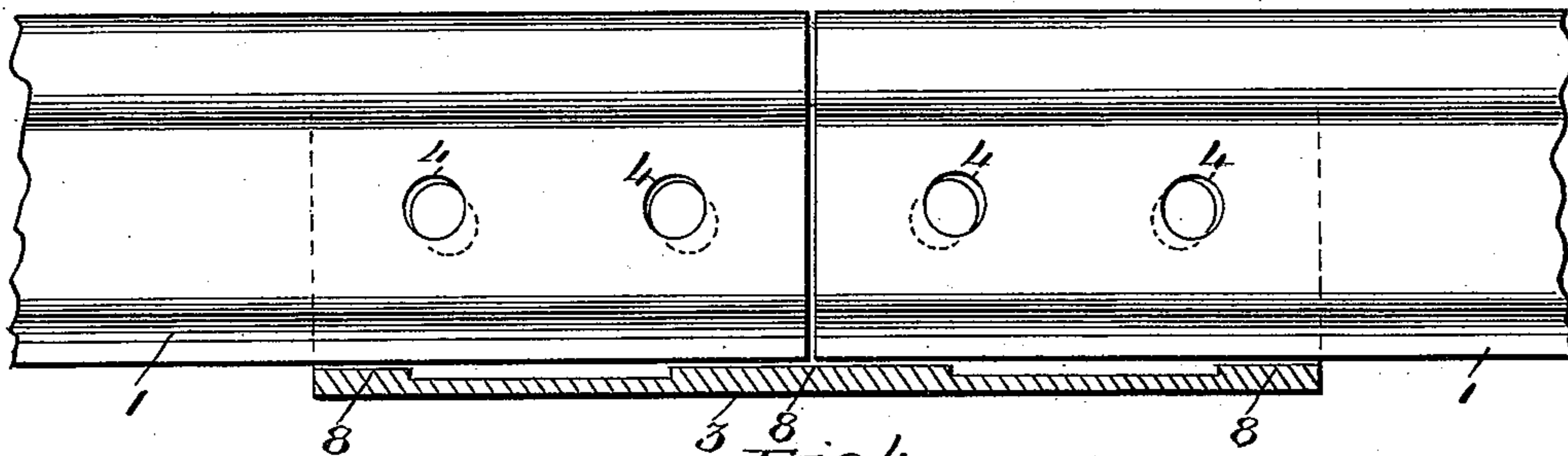


Fig. 4.

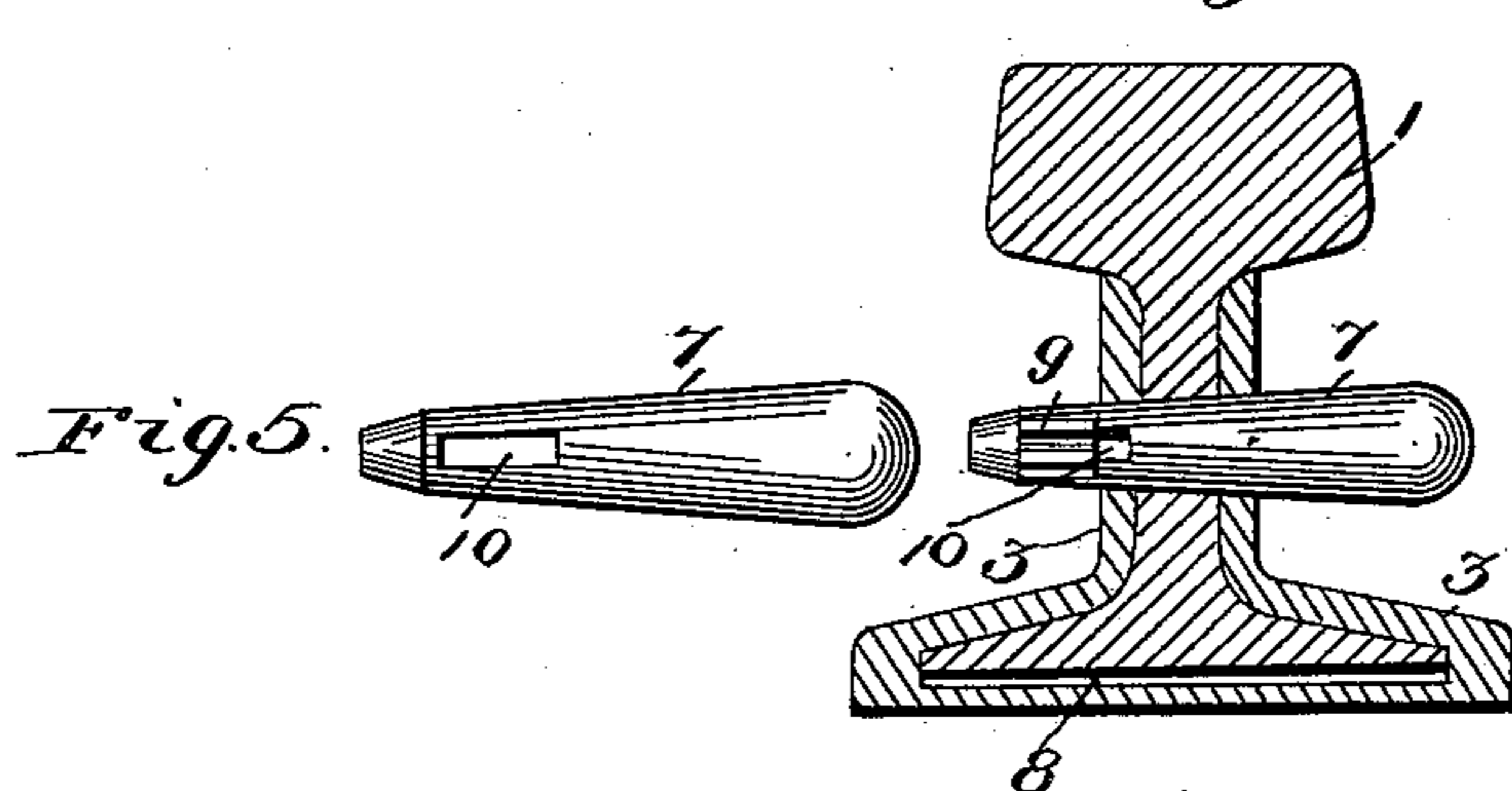


Fig. 6.

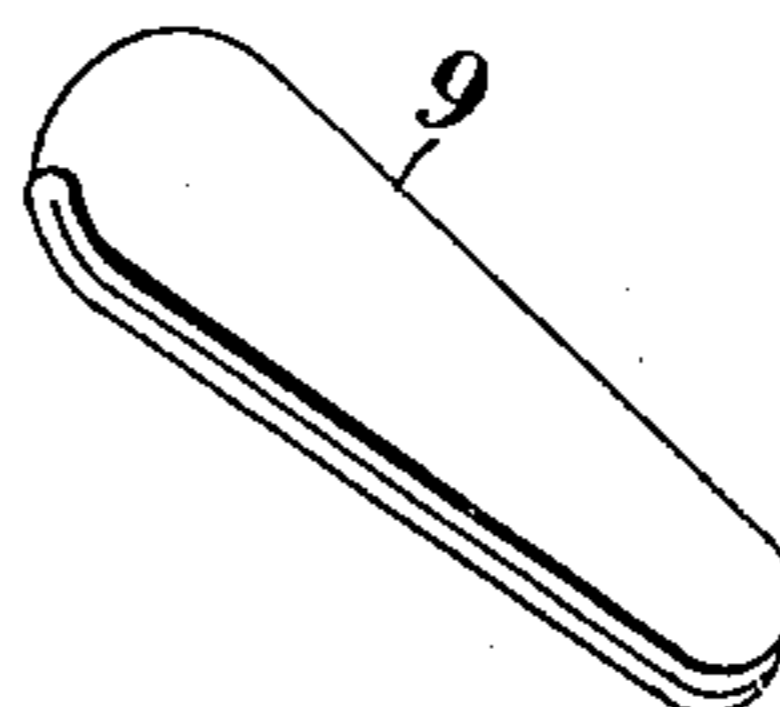


Fig. 5.

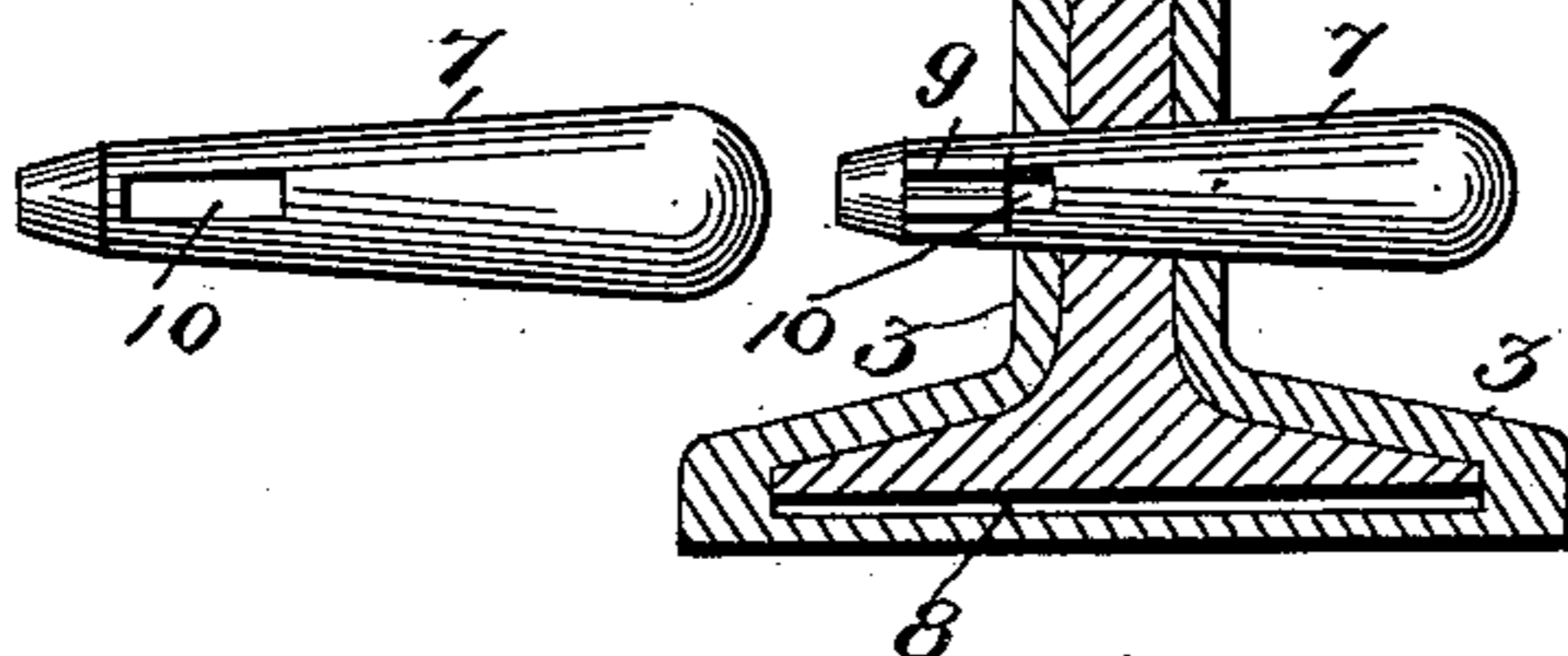
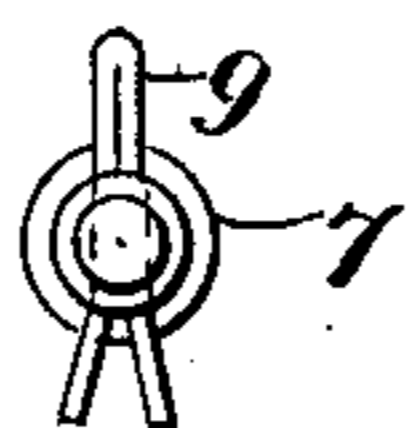


Fig. 7.



Witnesses  
S. Harding  
Alfred A. Mathey

Inventor  
Theodore F. Philippi.  
By his Attorneys  
Keller & Stares

# UNITED STATES PATENT OFFICE.

THEODORE F. PHILIPPI, OF ST. LOUIS, MISSOURI.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 602,102, dated April 12, 1898.

Application filed August 16, 1897. Serial No. 648,437. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE F. PHILIPPI, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Rail-Joints, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in rail-joints; and it consists in the novel construction of joint to be more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my joint as applied to two adjacent rails. Fig. 2 is a section on line  $xx$  of Fig. 1. Fig. 3 is a section on line  $yy$  of Fig. 2, with the rails, however, in elevation. Fig. 4 is a transverse section on line  $zz$  of Fig. 1. Fig. 5 is a detached view of the locking-key. Fig. 6 is a detached view of the split pin carried by the key, and Fig. 7 is a detail end view of the key with the pin inserted.

The object of my invention is to construct a rail-joint which while it subserves the purpose of a fish-plate at the same time serves as a bond which will draw the adjacent ends of the rails into close proximity to one another and to the bottom of the casing, which form the present construction of joint assumes.

A further object is to provide a joint which will be simple, inexpensive, and durable.

In detail the invention may be described as follows:

Referring to the drawings, 1 1 represent two contiguous rails, the lower flanges and webs of which are embraced by the walls of the casing 3, constituting the rail-joint, the rails being inserted into the open ends of the casing from opposite sides. The cross-section of the casing conforms substantially to that of the web and lower flange of the rail, as best seen in Fig. 4, the vertical walls of the casing snugly embracing the adjacent surfaces of the web. The adjacent ends of the webs of the rails are provided with suitable circular openings 4, with which are adapted to normally and eccentrically aline the elongated openings 5 of the vertical members or walls of the casing, the points of intersection

of the peripheries of said openings on opposite sides of the center of the casing being along lines or chords 6, inclined upward toward the meeting ends of the rails and converging toward one another, whereby a section of metal of the web is exposed through each elongated opening 5 along a line diagonally below the center of each opening 4 and in a direction substantially at right angles to the chord 6 above referred to.

When a tapering key, such as 7, is inserted through the opening resulting from the intersection of the openings 4 and 5 and driven home, it is apparent that said key while being so driven will tend to bring the openings 4 and 5 into more concentric alinement, thereby not only drawing the contiguous ends of the rails into close proximity, but at the same time forcing each rail firmly against the bottom of the casing—that is to say, the rail will be drawn both horizontally and vertically. To insure a positive bearing for the rail, I provide the inner surface of the bottom of the casing with raised ledges or platforms 8.

After the key is driven home a split pin 9 is driven through the opening 10 at the tapering end of the key, the said pin serving to draw the vertical members of the casing close against the web of the rail. The present casing or joint may, if made of material such as copper, serve as an electric bond for rails over which run electric or trolley cars.

Having described my invention, what I claim is—

1. A rail-joint comprising a casing adapted to embrace the flanges and webs of two contiguous rails, and conforming in cross-section to that of the parts embraced, and means for simultaneously drawing the contiguous ends of the rails toward one another and also forcing said rails firmly against the bottom of the casing, substantially as set forth.

2. A rail-joint comprising a casing adapted to embrace the flanges and webs of two contiguous rails, and conforming in cross-section to that of the parts embraced, means for securing the vertical walls of the casing to the webs of the rails, and means for simultaneously drawing the contiguous ends of the rails toward one another and also forcing said rails firmly against the bottom of the casing, substantially as set forth.

3. A rail-joint comprising a casing adapted to embrace the lower flanges and webs of the adjacent ends of two rails, the web of each rail having suitable openings formed therein, 5 and the vertical walls of the casing also having suitable openings adapted to normally but eccentrically aline with the openings of the webs, the said openings intersecting along the ends of a chord inclined toward the free 10 end of the rail thus leaving sections of the metal of the web exposed along a diagonal line tending toward the center of the length of the casing, a key adapted to be forced through each of the alining openings where-

by in the driving of the key the rails are 15 forced toward each other and at the same time firmly against the bottom of the casing, the key having an opening at one of its ends, and a pin adapted to be passed through said opening whereby the vertical walls of the cas- 20 ing are drawn firmly against the webs, substantially as set forth.

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

THEODORE F. PHILIPPI.

Witnesses:

EMIL STAREK,

ALFRED A. MATHEY.