

No. 809,238.

PATENTED JAN. 2, 1906.

R. L. ALEXANDER.
RAIL JOINT.

APPLICATION FILED APR. 10, 1905.

Fig. 1.

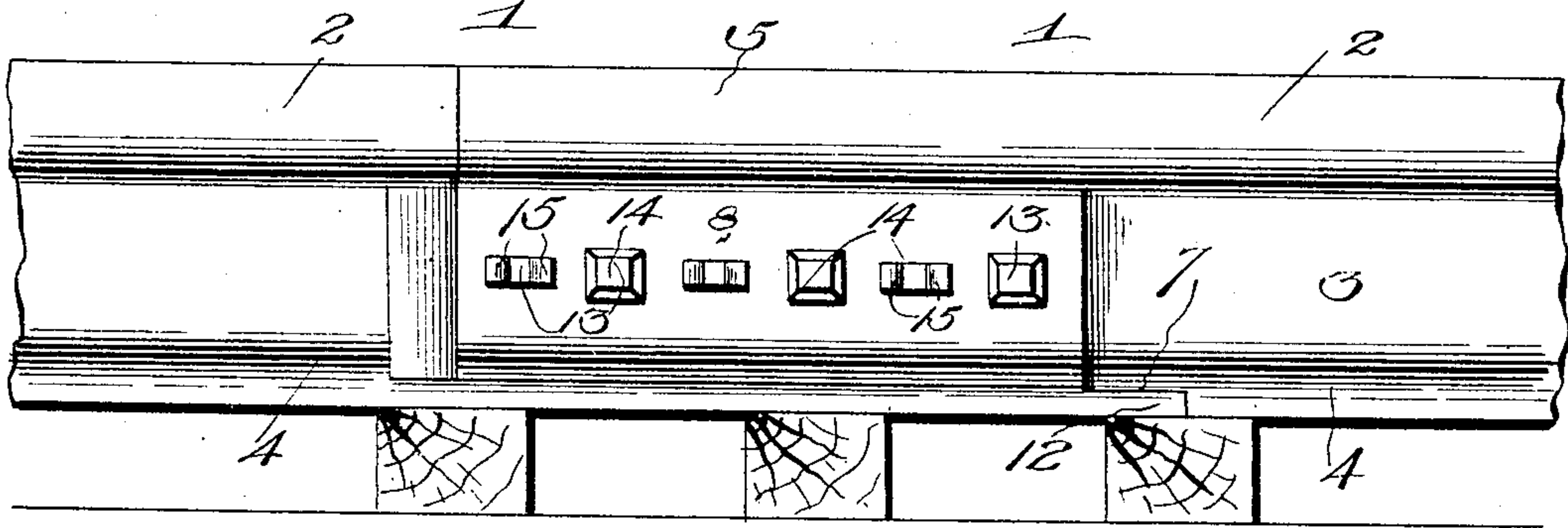


Fig. 2.

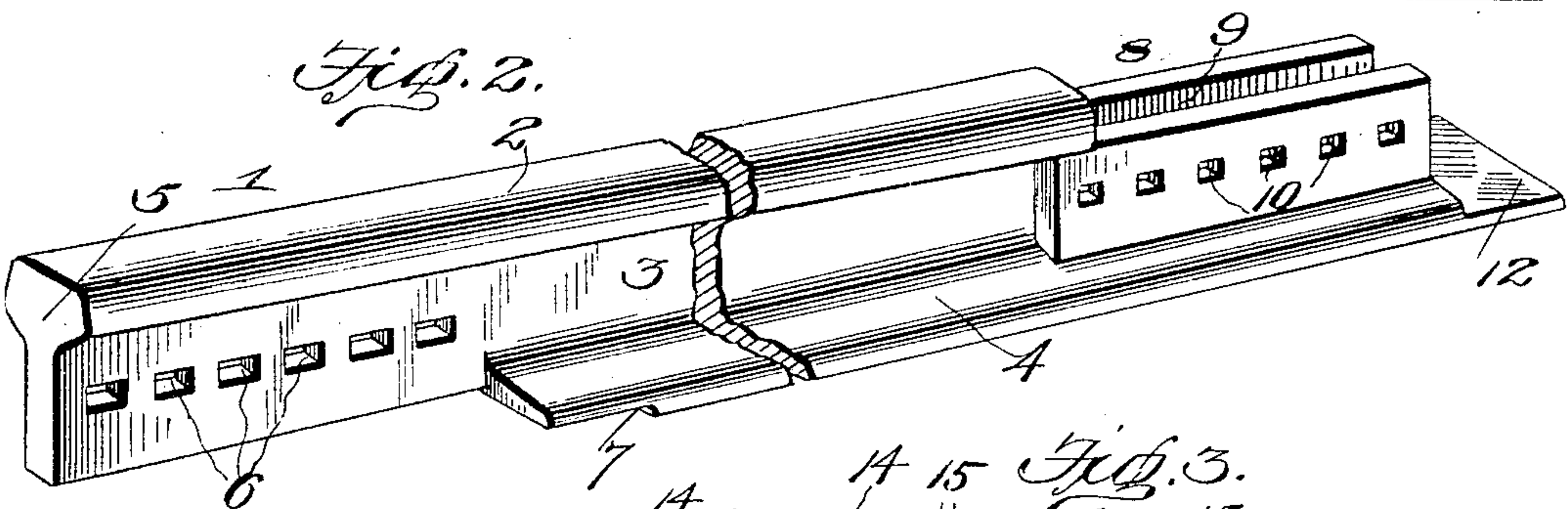


Fig. 3.

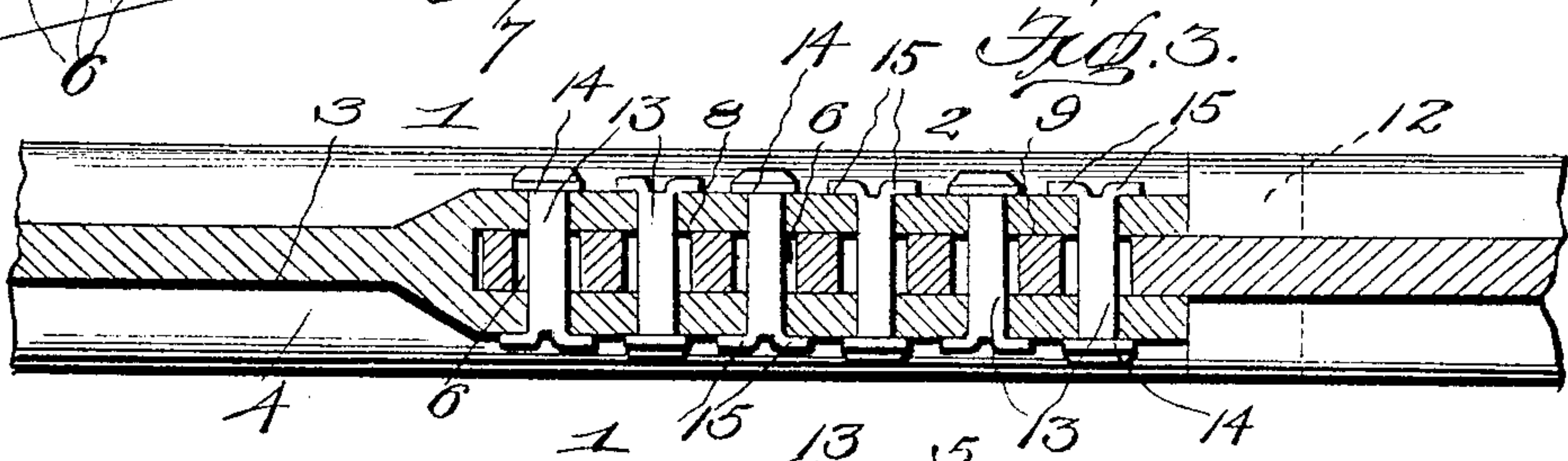


Fig. 4.

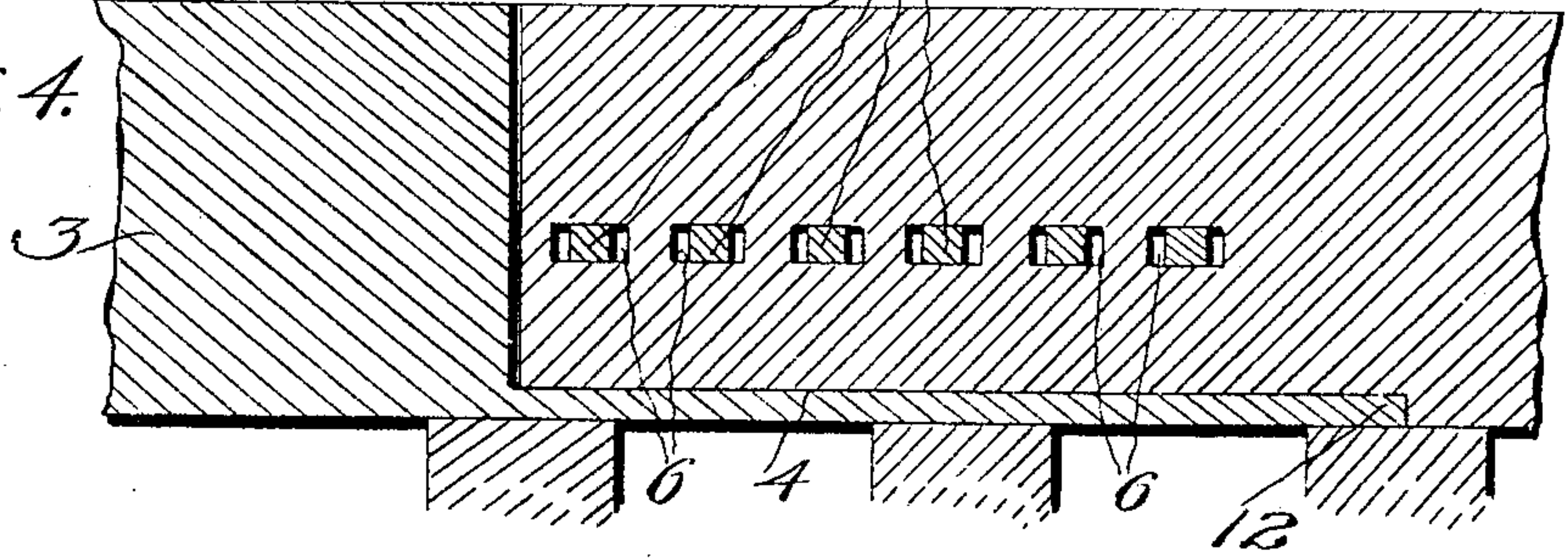
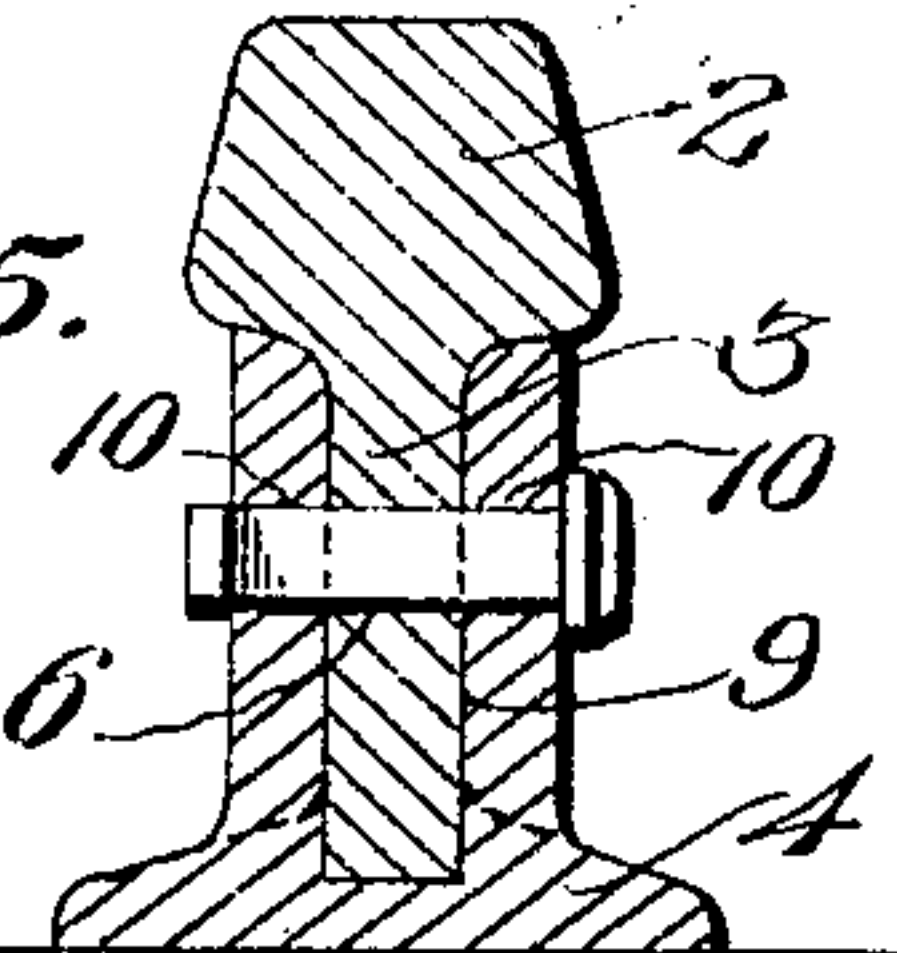


Fig. 5.



Witnesses
C. H. Hunt.
C. H. Giesbauer.

Inventor
R. L. Alexander.
by A. B. Wilson
Attorney

UNITED STATES PATENT OFFICE.

ROBERT LEE ALEXANDER, OF MORAL, OKLAHOMA TERRITORY, ASSIGNOR
OF ONE-HALF TO ALBERT COLEMAN, OF McCOMB, OKLAHOMA TERRI-
TORY.

RAIL-JOINT.

No. 809,238.

Specification of Letters Patent.

Patented Jan. 2, 1906.

Application filed April 10, 1905. Serial No. 254,822.

To all whom it may concern:

Be it known that I, ROBERT LEE ALEX-
ANDER, a citizen of the United States, resid-
ing at Moral, in the county of Pottawatomie
5 and Territory of Oklahoma, have invented
certain new and useful Improvements in
Rail-Joints; and I do declare the following
to be a full, clear, and exact description of the
invention, such as will enable others skilled
10 in the art to which it appertains to make and
use the same.

This invention relates to improvements in
rail-joints for railway-rails.

The object of the invention is to provide a
15 joint for railway-rails to securely hold the
same together without the use of fish-plates
or other supplemental fastening devices.

A further object is to provide a rail-joint
of this character which will be simple, strong,
20 durable, and inexpensive in construction and
which will prevent the sagging and the spread-
ing of the rails.

With the above and other objects in view
the invention consists of certain novel fea-
25 tures of construction, combination, and ar-
rangement of parts, as will be hereinafter de-
scribed and claimed.

In the accompanying drawings, Figure 1 is a
side elevation of the meeting ends of two rail-
30 sections, showing the manner of connecting
the same together. Fig. 2 is a perspective
view of one of the rail-sections, showing the
construction of the opposite ends of the
same. Fig. 3 is a horizontal sectional view
35 through the joint. Fig. 4 is a longitudinal
vertical sectional view thereof, and Fig. 5 is a
transverse vertical sectional view of the same.

Referring more particularly to the draw-
ings, 1 denotes one of the rail-sections, con-
40 sisting of a head or tread portion 2, a web
portion 3, and a base-flange portion 4. On
one end of the rail-section the flanged portion
4 is cut away to form a longitudinally-pro-
jecting head and web portion 5, said project-
45 ing web portion being provided with a se-
ries of elongated transversely-disposed aper-
tures or slots 6, of which there may be any
suitable number, six of the same being shown
in the drawings. The ends of the flanged
50 portion 4 adjacent to the projecting web and
head portion 5 is provided with a recess 7.

The head 2 on the opposite end of the rear
section is cut away to form a longitudinally-
projecting web and base-flange portion 8.

The web of said projecting portion 8 is formed 55
of considerably greater width than the web
of the rest of the rail, and in said widened
projecting web is formed a longitudinally-
disposed channel or mortise 9. Said mortise
extends down into the base-flange portion of 60
the projection, as shown. In the sides of the
mortised web are formed opposite trans-
versely-disposed apertures 10, and on the
ends of the projecting flange is formed a longi-
tudinal extension 12. 65

In assembling the sections of the rail to-
gether the projecting web and head portion
at one end of the rail is engaged with the
mortised web and flange-section of the oppo-
site end of the next adjacent section, the 70
web of one section entering the mortise in
the web of the other, while the extension 12
of said mortised flange will engage the recess
7 of the meeting sections, as shown. When
the sections are so assembled, the apertures 75
in the walls of the mortised web will aline
with the slots of the tenon-web, and through
said alining apertures are adapted to be in-
serted locking-pins 13, said pins being pref- 80
erably rectangular in cross-section and pro-
vided on one end with a head 14, the oppo-
site ends of the same being bifurcated, as
shown at 15. Said bifurcated ends are
adapted to project beyond the outer sides of 85
the mortise portion of the web, against which
they are adapted to be upset, thereby firmly
holding the pins in place and the sections of
the rail together. In placing the pins through
the apertures in the meeting ends of the rail
they are arranged in alternate positions— 90
that is to say, the head of one pin will be dis-
posed on one side of the rail while the head of
the next will be disposed on the opposite side,
thus bringing the heads and the bifurcated
ends of the pins in alternate positions on said 95
rail. By providing slots or elongated aper-
tures 6 in the tenon portion of the web the
expansion and contraction of the rails is pro-
vided for. At the same time the sections of
the same are firmly held against separation 100
or vertical movement. By extending the
mortise 9 through the web portion and into
the base-flange portion of the projecting end
8 the strength of said mortise portion is
greatly increased and spreading of the walls 105
thereof is prevented. The overlapping fea-
ture formed by the extension 12 entering the
recess 7 of the opposite meeting ends of the

rail also greatly increases the strength of the joint.

In laying the rail upon the ties three of the latter are provided at each joint, one of
5 said ties being disposed beneath each of the ends or terminals of the rail-sections and one midway between said ends, thus forming a firm support for the joints which when properly spiked to the ties will prevent sagging
10 or lateral spreading of the rails.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without re-
15 quiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of
20 this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A railway-rail having formed on one end a

longitudinally-projecting head and slotted 25 web, and on its opposite end a longitudinally-projecting web and flange, said web and flange having formed therein a longitudinally-extending mortise to receive the longitudi- 30 nally-projecting web of the next adjacent rail-section, the sides of said mortise web having formed therein oppositely-disposed rectangular apertures to aline with the rec- 35 tangular slots in the web of the adjoining section, pins having square shanks adapted to be projected through the alined apertures and slots in said web, said pins having bifurcated outer ends adapted to be bent into en- 40 gagement with the adjacent sides of said webs, thereby securing said pins in place, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ROBERT LEE ALEXANDER.

Witnesses:

J. P. LUNSFORD,
O. A. MILLER.