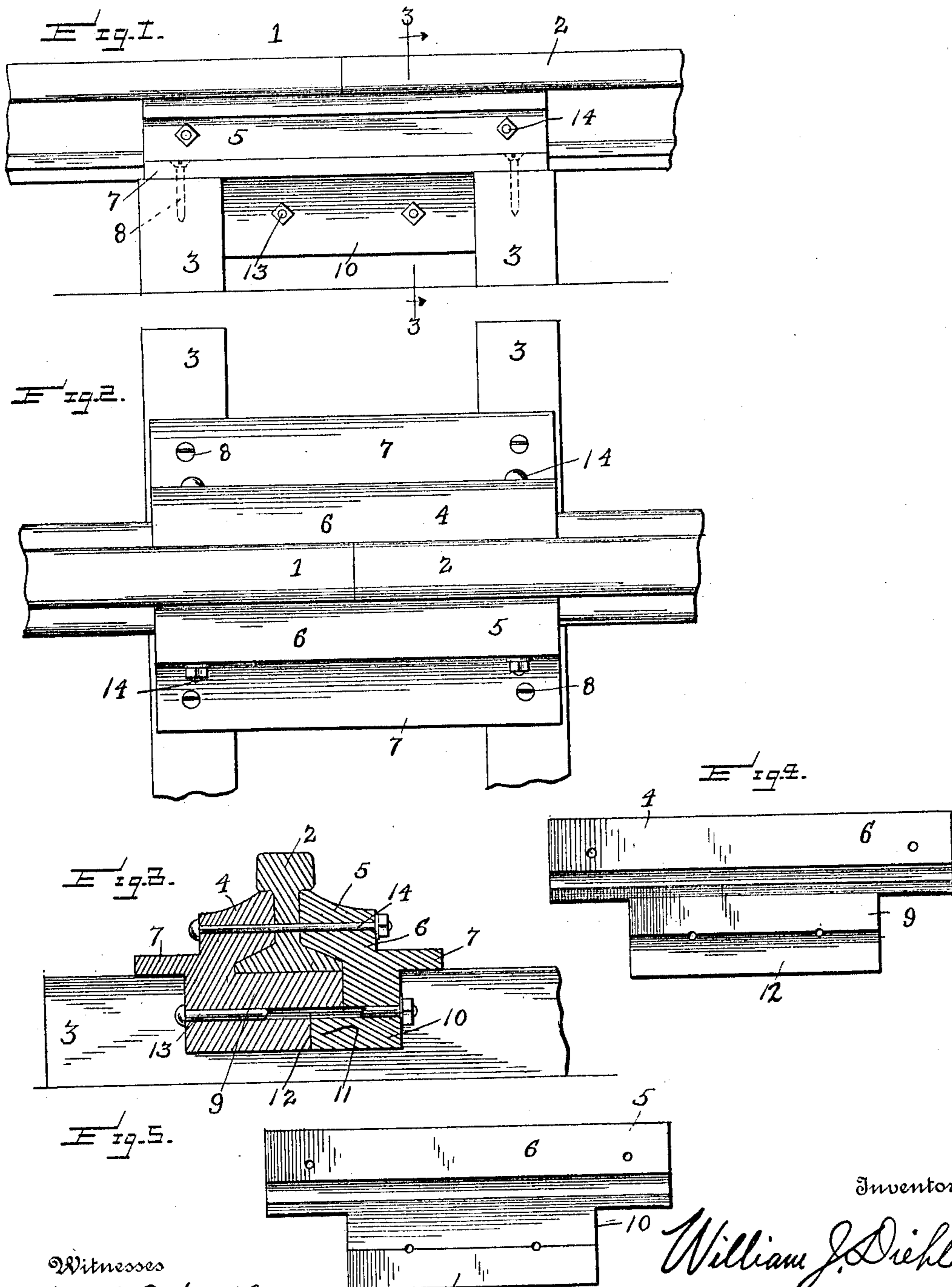


W. J. DIEHL.
RAIL JOINT.
APPLICATION FILED DEC. 14, 1909.

Patented Feb. 21, 1911.

984,546.



Witnesses
Ed. C. Anderson.
E. M. Ricketts.

Inventor
William J. Diehl
By Watson E. Coleman
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM J. DIEHL, OF CHARLESVILLE, PENNSYLVANIA.

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Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed December 14, 1909. Serial No. 533,079.

To all whom it may concern:

Be it known that I, WILLIAM J. DIEHL, a citizen of the United States, residing at Charlesville, in the county of Bedford and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in joints for railway track rails and its object is to provide one which will be simple, strong, durable and inexpensive in construction and which will effectively unite the meeting ends of two track rails and hold them rigidly in alinement with each other.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter described and claimed, and illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of my improved rail joint; Fig. 2 is a top plan view; Fig. 3 is a vertical cross section taken on the plane indicated by the line 3—3 in Fig. 1, and Figs. 4 and 5 are views of the inner faces of the two members of the joint.

In the drawings 1 and 2 denote the meeting ends of two track rails and 3 denotes cross ties on which the rails are secured.

My improved joint comprises two similar members or half sections 4, 5, arranged on opposite sides of the rails and between two of the ties as shown. Each of the members 4, 5, has a thick, solid, upper longitudinally extending portion 6 which is adapted to serve as a fish plate and which has its inner face shaped to engage the outer face of the web and base flange of the track rails as more clearly shown in Fig. 3. Each of said portions has a flat, vertically disposed, outer face and is also formed adjacent to its bottom edge with a longitudinally and outwardly extending horizontal flange 7 adapted to rest upon the upper faces of the ties 3 and to be secured thereto by screws 8 or any other suitable fastening devices passed through apertures in said flanges and into or through the ties. The member 4 is formed with a lower inwardly projecting portion 9 which extends longitudinally the full length of the space between the ties 3 and has its ends abutting against the opposing faces of said ties to space them apart. The base of the track rails rests upon the upper face of

the lower portion 9 as shown in Fig. 3 so as to effectively support the abutting ends of the track rails. The other member 5 is also formed with a depending lower portion 10 similar to the portion 9 of the member 4 and against the inner face of which said portion 9 is adapted to abut as shown in Fig. 3. In order to cause the two lower portions to more effectively engage each other and thus strengthen the joint, the portion 10 is formed at its lower inner edge with an inwardly projecting extension 11 which enters a longitudinal groove or recess 12 formed in the bottom edge of the portion 9 of the member 4. The two members are effectively united to each other and to the rails 1, 2, by two or more bolts or the like 13 passed through alined transverse openings in the depending portions 9, 10 of the two members, and also by two or more bolts or the like 14 passed through alined openings in the upper portions 6 of said members and in the rails 1, 2, as clearly shown in the drawings.

From the foregoing it will be seen that my improved joint is exceedingly simple in construction and that it may be produced at a small cost and quickly and easily assembled. It will be further noted that the joint will be exceedingly strong and durable and that it will effectively unite the meeting ends of the rails and hold them in perfect alinement with each other. The depending portions 9, 10 of the two joint members not only serve to space the ties apart but also to form a chair for the meeting ends of the rails so that the latter will be effectively supported and an exceedingly rigid and substantial structure provided.

Having thus described my invention what I claim is:

The combination with two cross ties, and the meeting ends of two track rails, of two joint members arranged longitudinally on opposite sides of the rails, and each having a thick solid upper portion formed with an outer vertically disposed face, and an inner face shaped to engage the webs and base flanges of the rails, said upper portions and the webs of the rails being formed with registering transverse openings to receive bolts, and said vertical outer faces being disposed in planes outside of the outer edges of the base flanges of the rails, horizontal attaching and reinforcing flanges formed on the two members and projecting outwardly

therefrom, and also longitudinally from end
to end of the members, said flanges being
adapted to rest on the cross ties and aper-
tured to receive fastenings, said members
5 being also formed with enlarged solid bot-
tom portions provided with flat vertically
disposed outer faces, registering transverse
openings and upright end walls, the latter
abutting against the opposing faces of the
10 two cross ties, said bottom portion of one
member being formed with a lateral exten-
sion extending entirely across the bottom
face of the base flanges of the rails to sup-
port the latter and said extension being
15 formed in its bottom edge with a straight
groove extending longitudinally from end to
end to said extension, the bottom portion of
the other member being formed on its inner
bottom edge with a straight laterally project-

ing rib extending from end to end of said 20
bottom portion, and adapted to enter said
groove in the extension on the other mem-
ber, to effectively support said extension,
transverse bolts passed through the regis-
tering openings in the upper and lower por- 25
tions of the two members and having their
heads and nuts engaged with the vertical
outer faces of said upper and lower portions
of the members, and vertical fastenings
passed through the apertures in said flanges 30
and into the cross ties, as shown and for the
purpose set forth.

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

WILLIAM J. DIEHL.

Witnesses:

WM. C. MILLER,

H. F. BLACKBURN.