

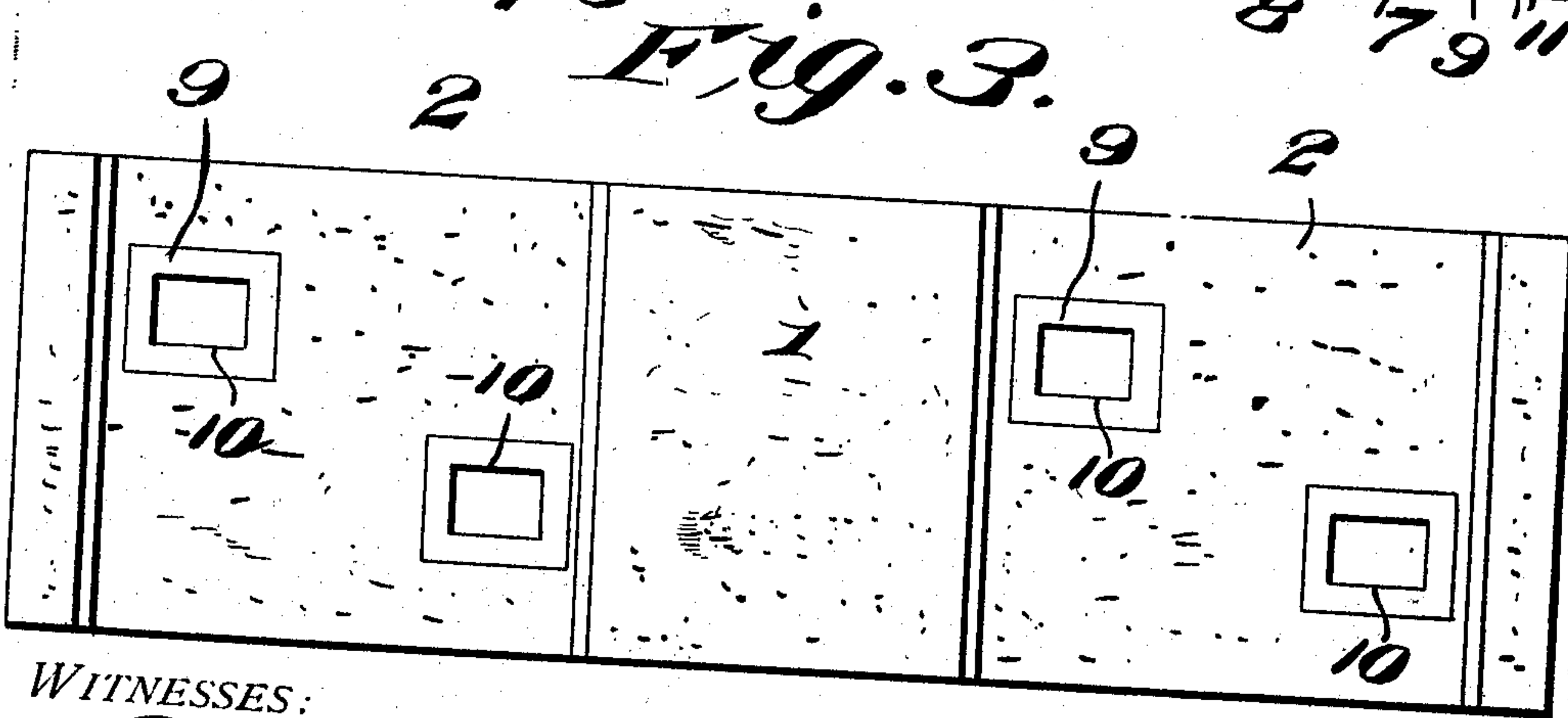
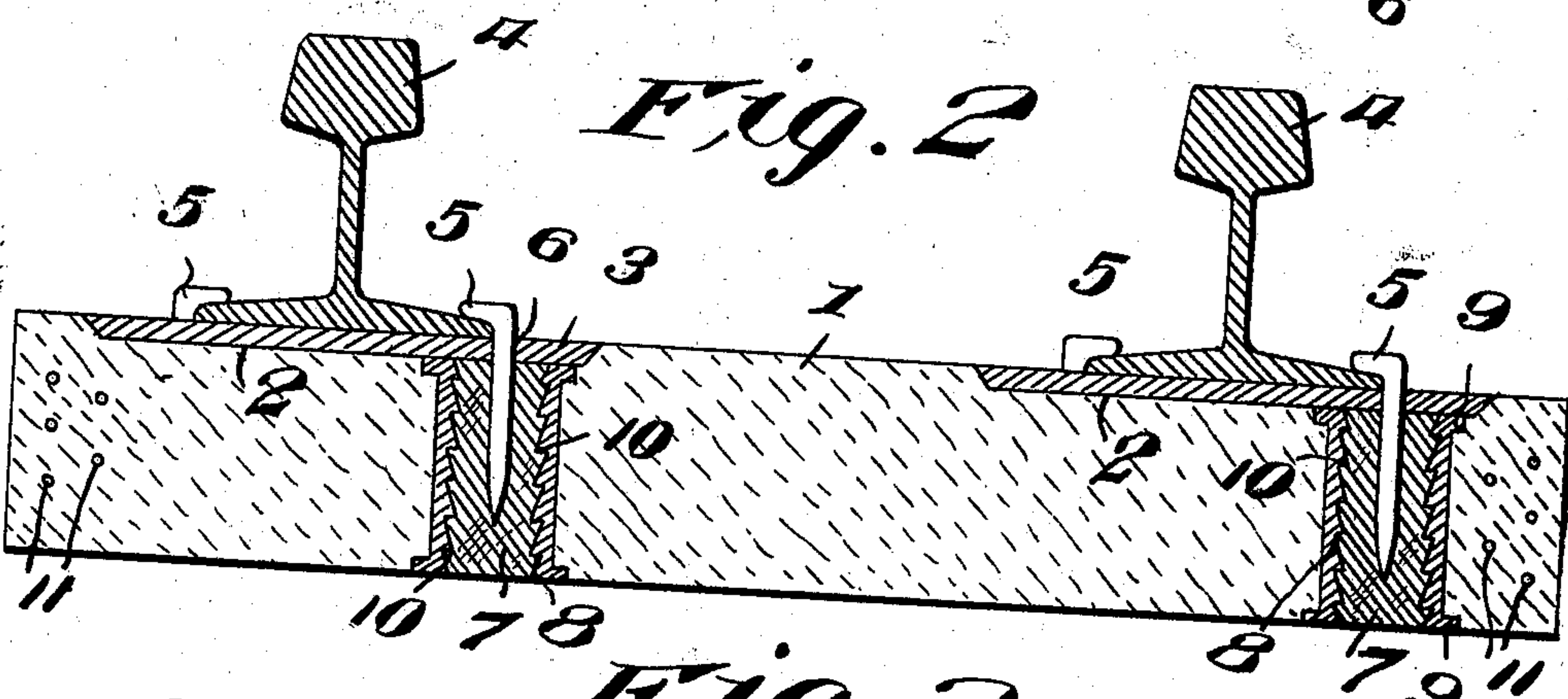
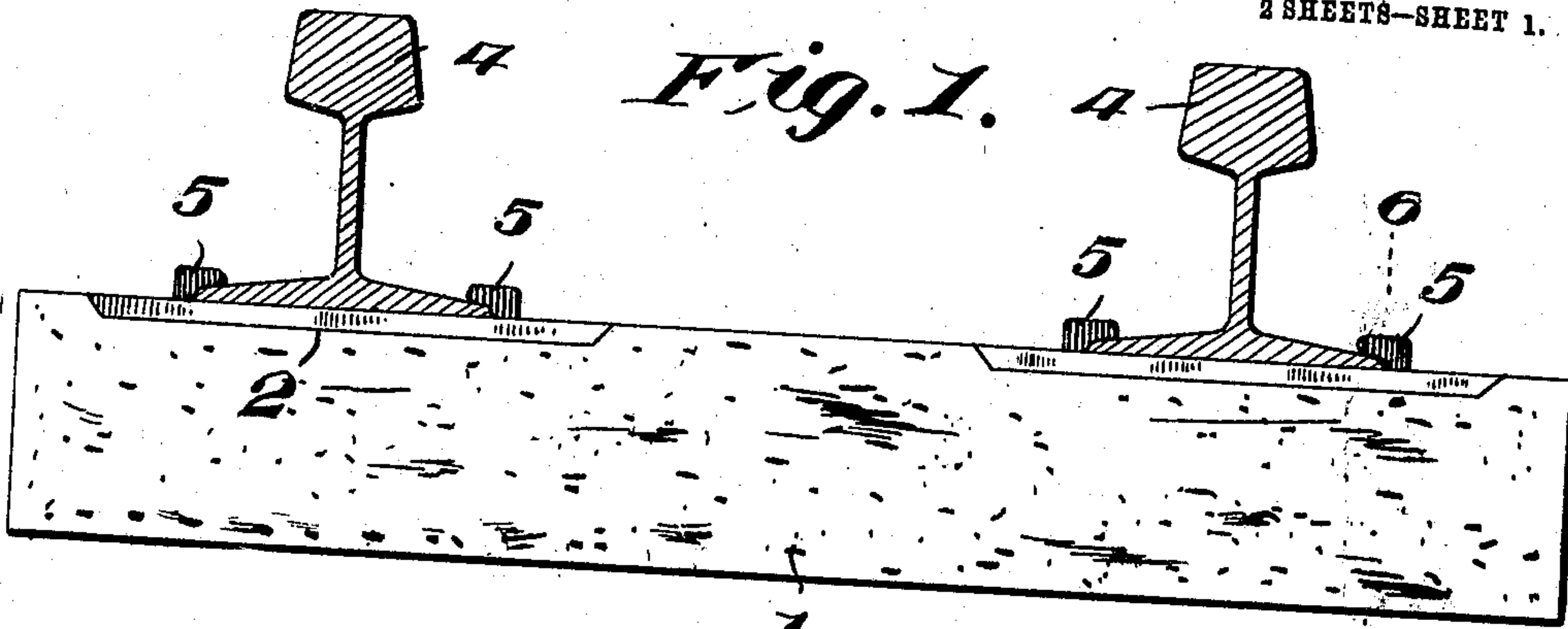
No. 858,376.

PATENTED JULY 2, 1907.

T. G. FISHER.
TIE.

APPLICATION FILED FEB. 21, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

Thos. W. Daley
W. J. Fitzgerald

INVENTOR
T. G. Fisher

BY
W. J. Fitzgerald & Co.
Attorneys

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Fig. 4.

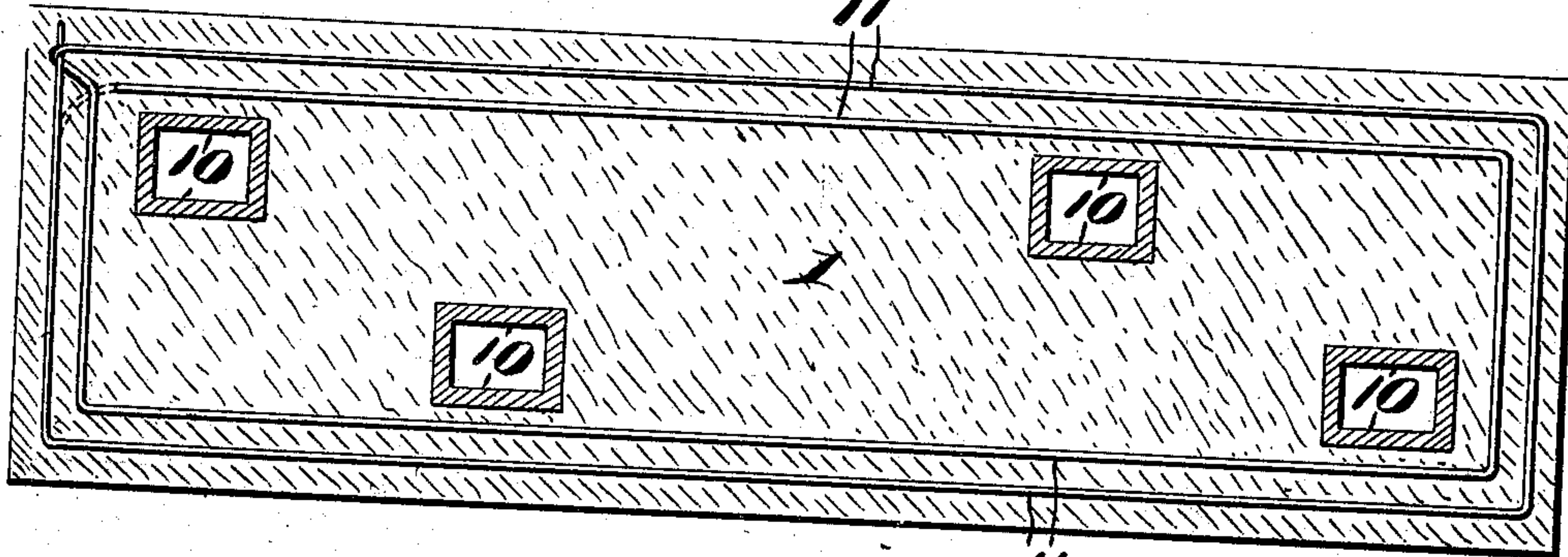


Fig. 5.

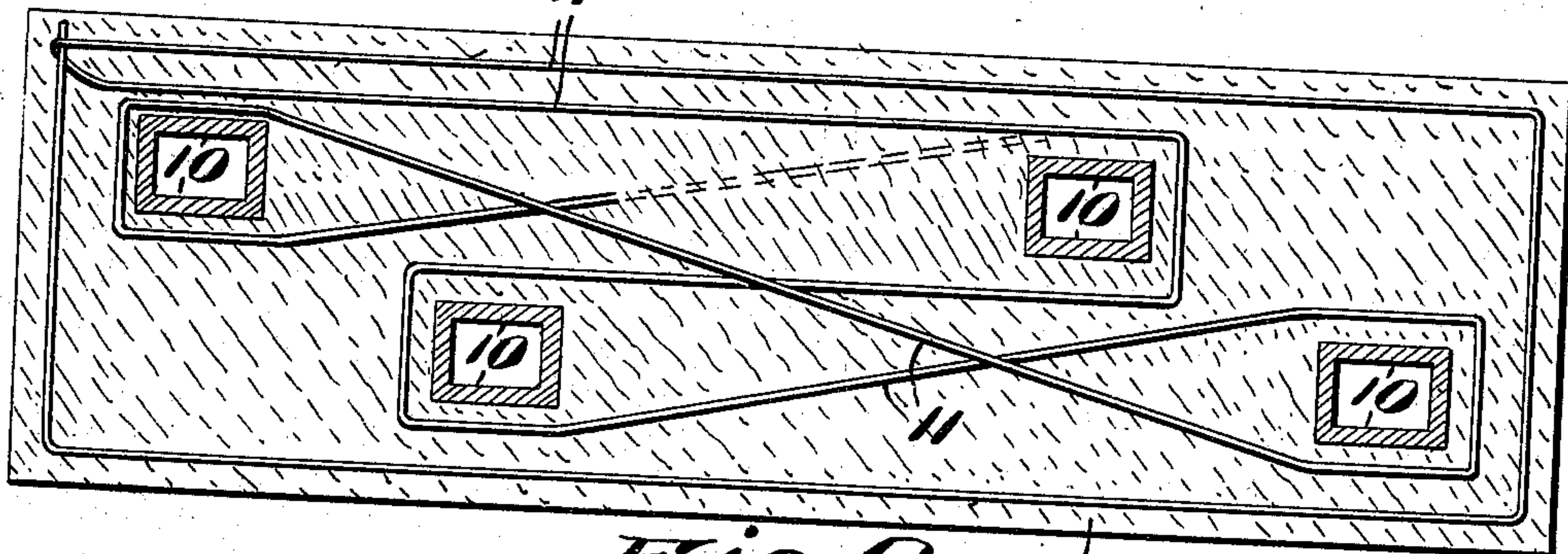
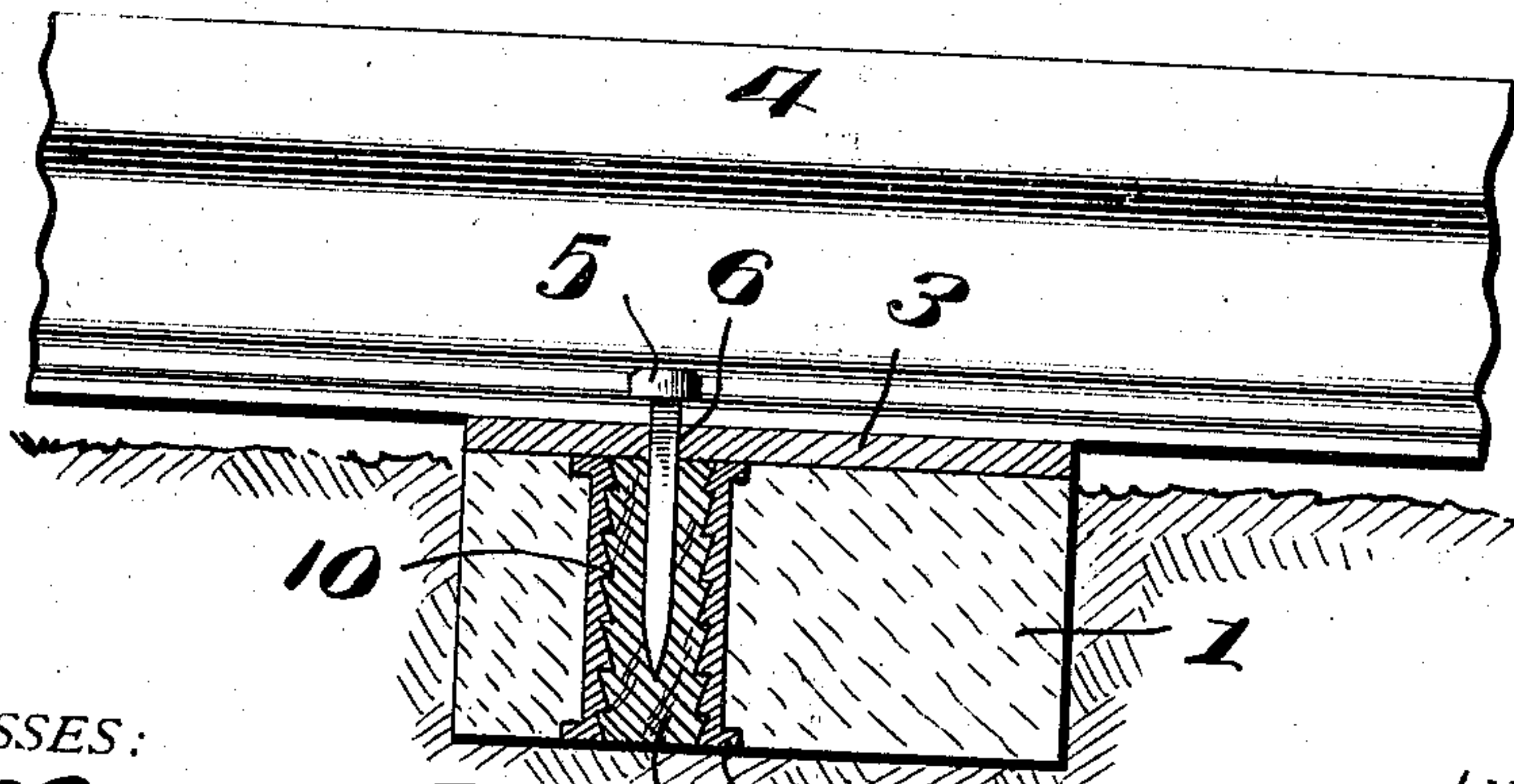


Fig. 6.



WITNESSES:

Thos. J. Carey
W. J. Fitzgerald

INVENTOR

T. G. Fisher

By

W. J. Fitzgerald & Co.
Attorneys

UNITED STATES PATENT OFFICE.

THEOBALD GEORGE FISHER, OF STRATFORD, WISCONSIN.

TIE.

No. 858,376.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed February 21, 1907. Serial No. 358,698.

To all whom it may concern:

Be it known that I, THEOBALD GEORGE FISHER, a citizen of the United States, residing at Stratford, in the county of Marathon and State of Wisconsin, have invented certain new and useful Improvements in Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in ties and more particularly to that class adapted to be used in connection with trackways to secure rails in position and my object is to provide a cement tie and means to reinforce the same.

A further object is to provide seats in the tie and bearing plates to fit therein.

A still further object is to provide means for securing spikes in the tie.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a side elevation of my improved form of tie showing rails seated thereon. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a top plan view of the tie with the rails and base plates therefor removed. Fig. 4 is a horizontal sectional view through the tie showing one form of reinforcing means therefor. Fig. 5 is a similar view showing a slightly modified form of reinforcing means, and, Fig. 6 is a sectional view as seen on line 6-6 Fig. 1.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates my improved form of tie which is preferably constructed from plastic material and is provided on its upper surface with depressions or cavities 2 in which are adapted to be seated base plates 3, the ends of said plates being tapered to fit the tapered end walls of the depressions.

The plates 3 are adapted to receive and support the usual or any preferred form of rail 4 and in order to secure the rails in position on the plates I employ the usual form of spikes 5 which are directed through slots 6 in the plates 3 and into fibrous blocks 7 and the tie 1.

The blocks 7 are preferably formed of wood or like material and are held in position in the tie by means of metal frames 8 which have openings extending from end to end thereof and while I have shown the opening as square it will be understood that they may be of any preferred contour.

The frames 8 are provided with a plurality of flanges 9 so that when the plastic material is disposed around the frames and becomes hardened, said frames are held firmly against longitudinal movement and in this instance I have shown a flange at each end of the frames but it will be understood that any number of the

flanges may be distributed throughout the length of the frames. The inner surfaces of the walls of the frames 8 are provided with a plurality of ledges or shoulders 10 so that when the blocks are forced into the frames under pressure, portions of the blocks will engage the ledges 10 and securely lock the same in the frames and thereby prevent longitudinal upward movement of the blocks, independent of the frames.

In constructing blocks of plastic material it becomes necessary to reinforce the molded article so that should the same for any reason become cracked, the parts thereof will be held together and to this end I have provided a reinforcing wire 11 which is preferably constructed of one continuous section of wire directed a number of times through the length and across the ends of the tie each lap of wire being disposed in a different horizontal plane as best shown in Fig. 4 of the drawing and in some instances instead of disposing the wires in laps as shown in Fig. 4, the same may be interwoven through the tie and looped around several frames and one section of the wire directed through the length thereof and across each end adjacent the outer surface of the tie thereby thoroughly reinforcing the tie and serving to hold the same together should the tie become cracked and it will be clearly understood that the wires are to be placed in the molds and the plastic material disposed therearound while in a soft or plastic state, and it will also be understood that the frames are likewise placed in the mold and the plastic material poured therearound.

By providing the blocks 7 I am enabled to employ the usual form of spike for securing the rails to the tie and the holding qualities of the blocks will be the same as when the spikes are driven into a wooden tie. It will thus be seen that I have provided a tie of this class which may be very cheaply constructed and one that will last indefinitely and it will further be seen that when it is desired to affix a new block the spikes may be readily removed and the old blocks 7 forced downwardly and out of the frame 8 and a new block inserted therein by placing the new block over the old block and forcing the same downwardly which will result in forcing the old block into the earth and the new block into the frame.

It will further be seen that I have provided a very cheap and easily constructed means of reinforcing the tie.

What I claim is:

1. The combination with a tie of plastic material having depressions in the upper face thereof; of plates to fit said depressions, frames in said tie and below the plates, blocks adapted to be disposed in said frames, means on the walls of the frames to engage the blocks and hold the same in the frames, said blocks being adapted to receive and hold spikes whereby rails may be secured to said tie.
2. In a tie of the class described the combination with a tie having depressions in its upper face; of rails, base

plates in said depressions to receive said rails, frames
extending vertically through said tie and secured therein.
blocks adapted to be disposed through said frames, means
on the inner faces of said frames to engage and hold the
5 blocks and spikes adapted to be driven into said blocks and
hold the rails in position on the tie.

3. The combination with a tie of plastic material, hav-
ing depressions in the upper face thereof; of plates to fit
said depressions, frames in said tie below the plates, blocks
10 adapted to be disposed in said frames, means on the walls
of the frames to engage the blocks and hold the same in
the frames, and a re-inforcing wire extending through the
tie in laps of different horizontal planes.

4. In a tie of the class described, the combination with a
15 tie having a plurality of frames extending vertically
through said tie and secured therein; of a re-inforcing

means comprising a single section of wire directed through
the tie in various planes and looped around each of said
frames.

5. The combination with a tie having a plurality of 20
hollow frames extending vertically therethrough; of re-
inforcing means comprising a continuous section of wire
extending through the tie along each edge and across each
end thereof, a portion of said wire extending in a tortu-
ous path through the center of the tie, and forming loops 25
around said frames.

In testimony whereof I have signed my name to this
specification in the presence of two subscribing witnesses.

THEOBALD GEORGE FISHER.

Witnesses:

DAN MAHONY,
ADOLPH FRANK.