

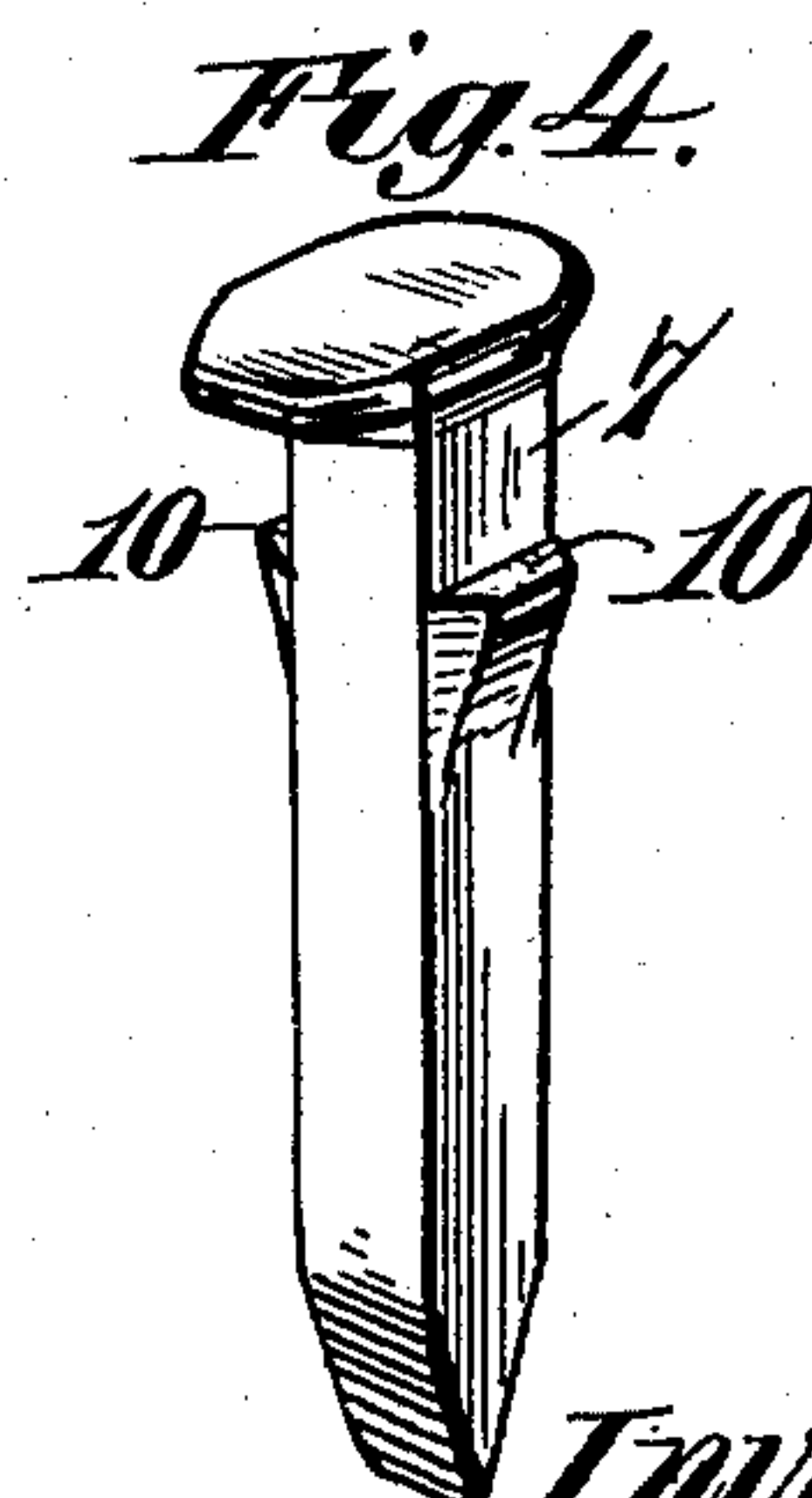
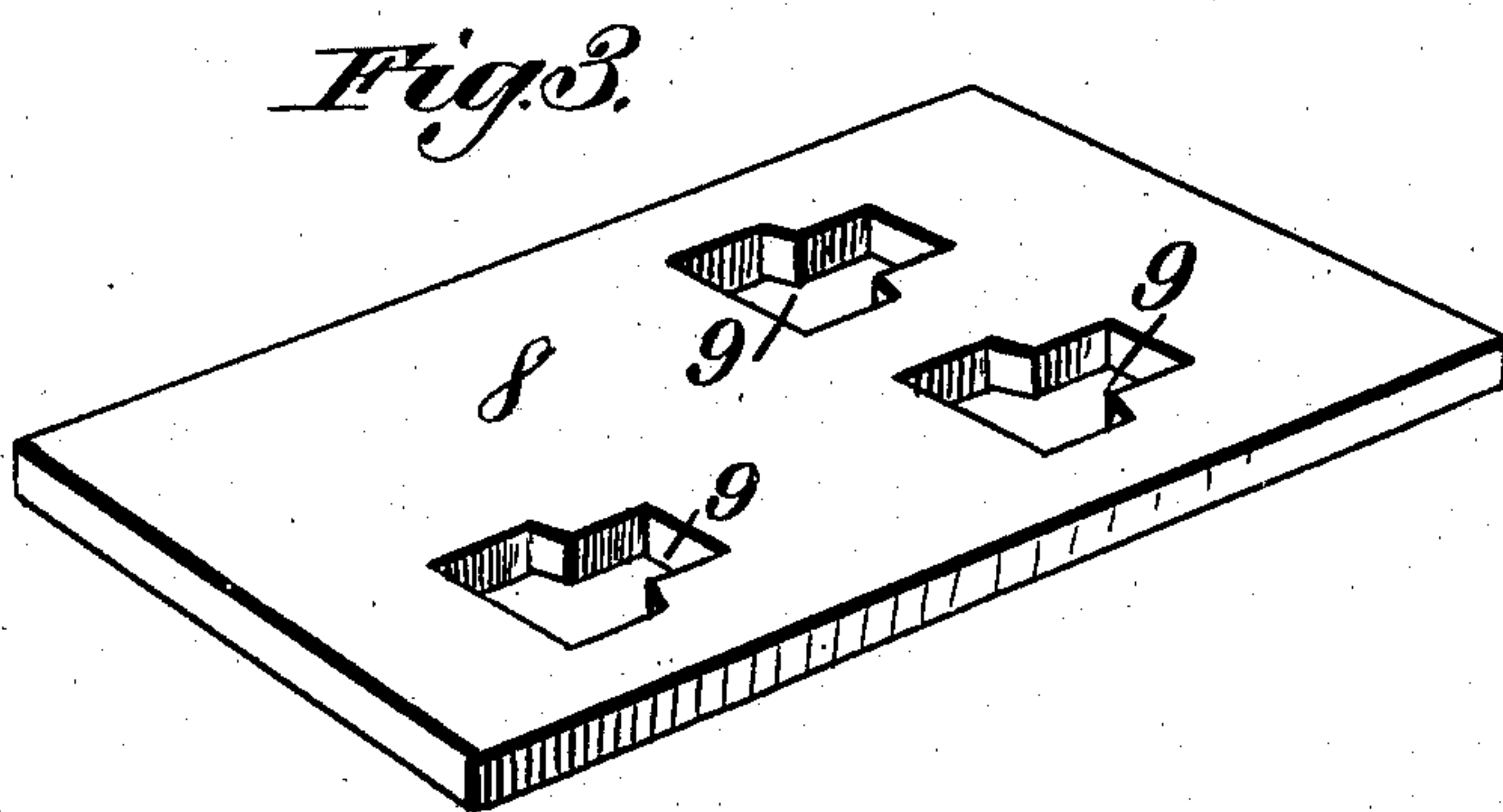
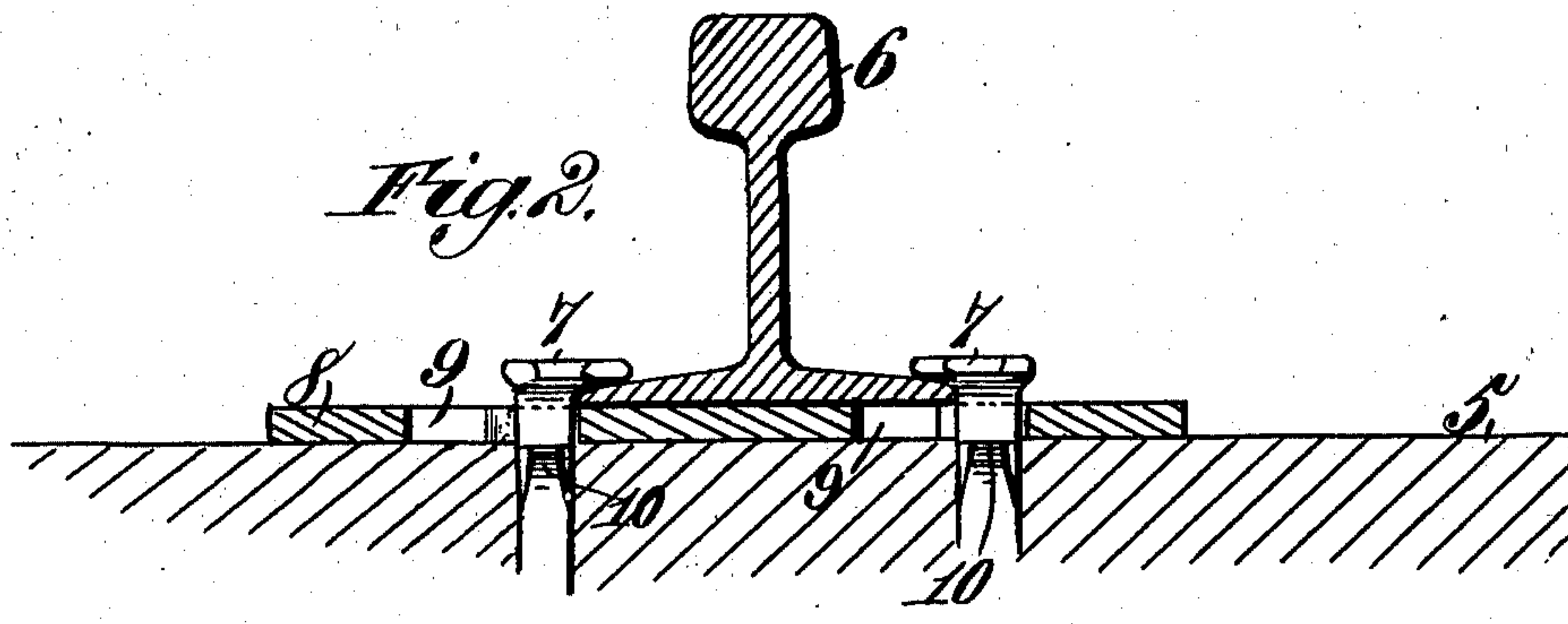
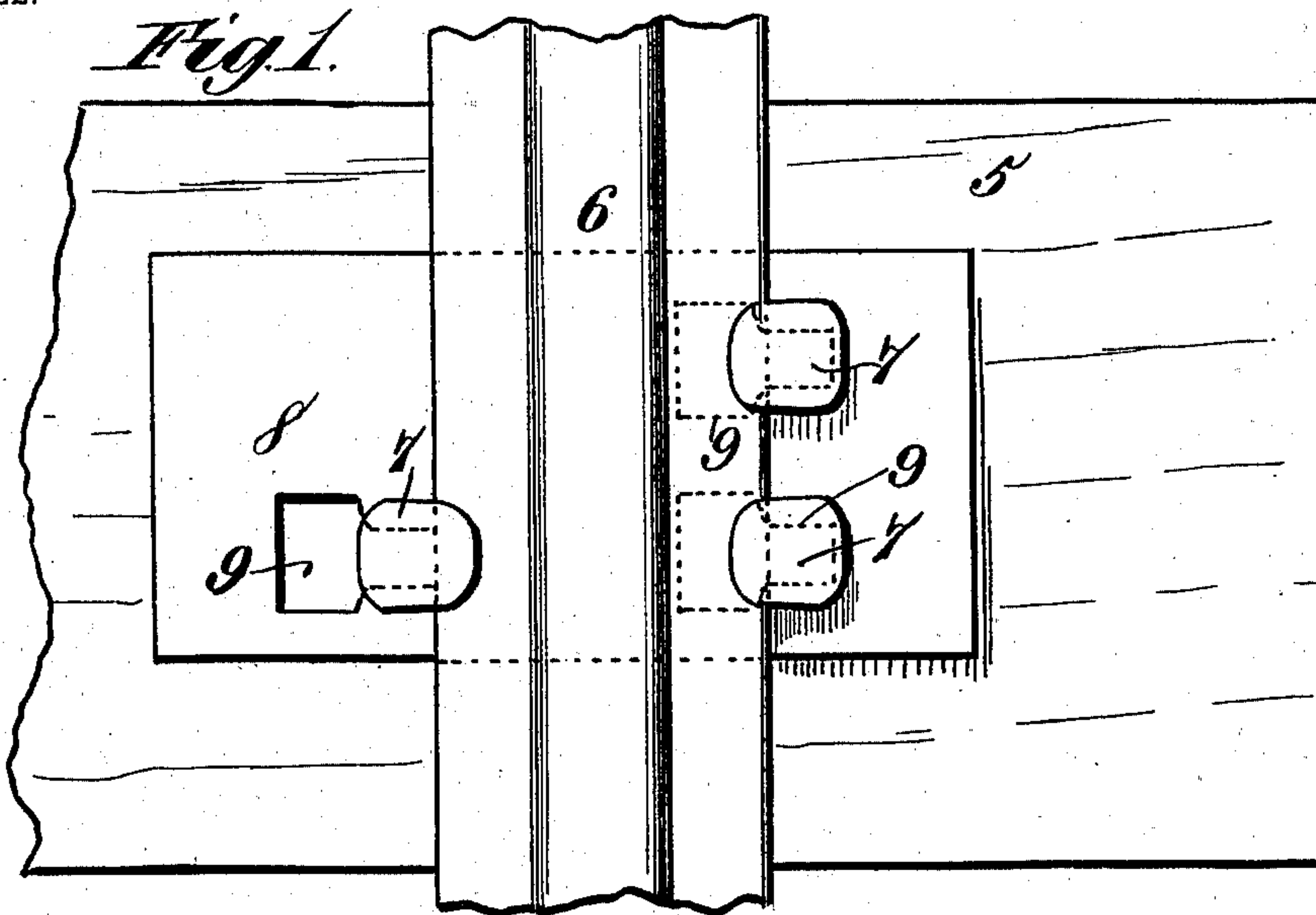
No. 719,950.

PATENTED FEB. 3, 1903.

C. E. NEUBAUER.
RAIL FASTENING.

APPLICATION FILED JULY 7, 1902.

NO MODEL.



Witnesses,
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UNITED STATES PATENT OFFICE.

CARL E. NEUBAUER, OF VIRGINIA, MINNESOTA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-FOURTH TO IDA KRAUSE AND CHARLES CONNORS, OF VIRGINIA, MINNESOTA.

RAIL-FASTENING.

SPECIFICATION forming part of Letters Patent No. 719,950, dated February 3, 1903.

Application filed July 7, 1902. Serial No. 114,629. (No model.)

To all whom it may concern:

Be it known that I, CARL E. NEUBAUER, a citizen of the United States, residing at Virginia, in the county of St. Louis and State of Minnesota, have invented new and useful Improvements in Rail-Fastenings, of which the following is a specification.

This invention relates to rail-fastenings; and the object of the invention is to provide simple and effective means of this character which can be readily applied and which when in use serves to prevent withdrawal of the spikes forming part of the device.

My improved rail-fastening includes a plurality of spikes having shoulders, the heads of the spikes being adapted to engage the rails, and a plate to rest on the tie and to sustain the rails and having slots to receive the spikes, and the solid portion of the plate being adapted to engage or be above the shoulders on the spikes.

The ordinary spike is dangerous, especially on curves. The trackmen have to be constantly on the watch for spikes that have accidentally been dislodged, and when once removed they cannot be advantageously driven into the same holes they originally occupied. They must be driven anew. In a short time the tie becomes so full of holes as to rot around the rail, and though otherwise sound it has to be thrown away. Railroad companies cannot use ties made of soft wood, such as pine or cedar, for the spikes will not stick in them. By reason of my improvements, however, the spikes can be held in place and against accidental withdrawal, no matter how heavy the traffic over the rails may be and notwithstanding the ties may be made of soft wood.

The invention is shown in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a plan view of a rail-fastening including my improvements and showing the manner of using the same. Fig. 2 is a transverse sectional elevation of the same. Fig. 3 is a perspective view of the spike-holding plate. Fig. 4 is a similar view of a spike.

In Figs. 1 and 2 the numeral 5 indicates part of a cross-tie and 6 a portion of a rail

adapted to be secured thereto, the rail being of the usual kind and the tie being of wood, either hard or soft, for by virtue of my improvements the spikes constituting part of the rail-fastening can be positively held against withdrawal even in soft woods. The spikes for securing the rail in place are denoted by 7, and they are driven into the tie 5 until their heads engage the base of the rail.

In the form of the invention illustrated the fastening is shown as arranged for securing the rail at a curve, there being three spikes employed, two being on the outside and one on the inside, so as to assure against spreading of a rail or rails at such place. The spikes are held against accidental withdrawal by a plate 8 of peculiar construction, the said plate having a plurality of slots, as 9, corresponding in number with the spikes used, there being three of such slots shown in the present case. The slots 9 are of approximately T form, the outer ones being in transverse alinement while the inner one is in longitudinal alinement with one of the said two slots, and it will be seen that the narrow portions of the several slots extend in the same direction. The distance between the inner edges of the wide portions of the inner and outer slots 9 substantially equals the width of the base of the rail for a purpose that will hereinafter appear. The spikes have below their heads the side shoulders of substantially wedge or steep-bevel form, so that when said spikes are driven into the tie such shoulders will not oppose any material resistance to this operation. The upper ends of the shoulders are straight or at right angles with the axes of the respective spikes.

In securing the rails a plate 8 is first laid on a tie and a rail put on the same, so that the opposite edges of the rail aline with the inner edges of the wide portions of the T-shaped slots. The spikes 7 are then driven into the tie 5 through such wide portions of the slots until their heads strike the base of the rail, it being understood that such wide portions of the slots are of a size as to freely receive the shouldered portions of the spikes. At the time the heads of the spikes come in contact

with the base of the rail it will be found that the upper straight faces of the shoulders 10 are flush with the upper surface of the tie. At this time the plate 8 is moved inward, so as to introduce the spikes, or those parts thereof between their shoulders and heads, into the narrow portions of the proper slots, it being evident that the distance between the said shoulders and heads is substantially equal to the thickness of the spike-holding plate. The plate can be slid inward by any suitable implement, and when it has reached the limit of its inward movement the bodies of the respective spikes will abut against the outer ends of the narrow portion of the slots 9, thereby bringing the solid portion of the plate 8 over the shoulders 10, so that as the rail rests on said plate the latter serves to prevent the accidental withdrawal of the spikes. The narrow portions of the slots, it will be apparent, are narrower than the shouldered portions of the spikes. Before the spikes can be withdrawn it will be necessary to slide the plate 8 outward until the wide portions of the slots coincide with the shouldered portions of the spikes, when they can be readily removed by the proper instrument.

The improved fastening means possesses another advantage. When a trackman drives an ordinary spike, the last blow is frequently too hard and weakens the heads to such an extent that when the spikes are removed their heads are broken off, so that in this way there are a great many spikes lost. With my improvements, however, the trackmen have to exercise care in striking the last few blows

and see that the head of the spike rests on the base of the rail.

The plate and spikes may be made of any proper material and may be used in connection with various kinds of rails.

The improvements result in a saving of time, labor, and material and are exceedingly simple and inexpensive.

In some cases the distance between the shoulders 10 and heads of the spikes 7 is greater than that previously set forth—for example, at the joints of the rails.

Having described the invention, what I claim is—

In a rail-fastening, a rail, a plurality of spikes adapted to be driven in a tie, having heads adapted to engage the base of said rail and shoulders below said heads, and a plate adapted to rest upon said tie and to support a rail, and having a plurality of T-shaped slots arranged at opposite sides of said rail and through which said spikes are adapted to pass, the narrow portion of the T-shaped slots being narrower than the shouldered portion of the spikes, and the plate being adapted to fit between the shoulders of the respective spikes, and all the narrow portions of the slots extending in the same direction.

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

CARL E. NEUBAUER.

Witnesses:

PETER PETERSON,
CHAS. E. NELSON.