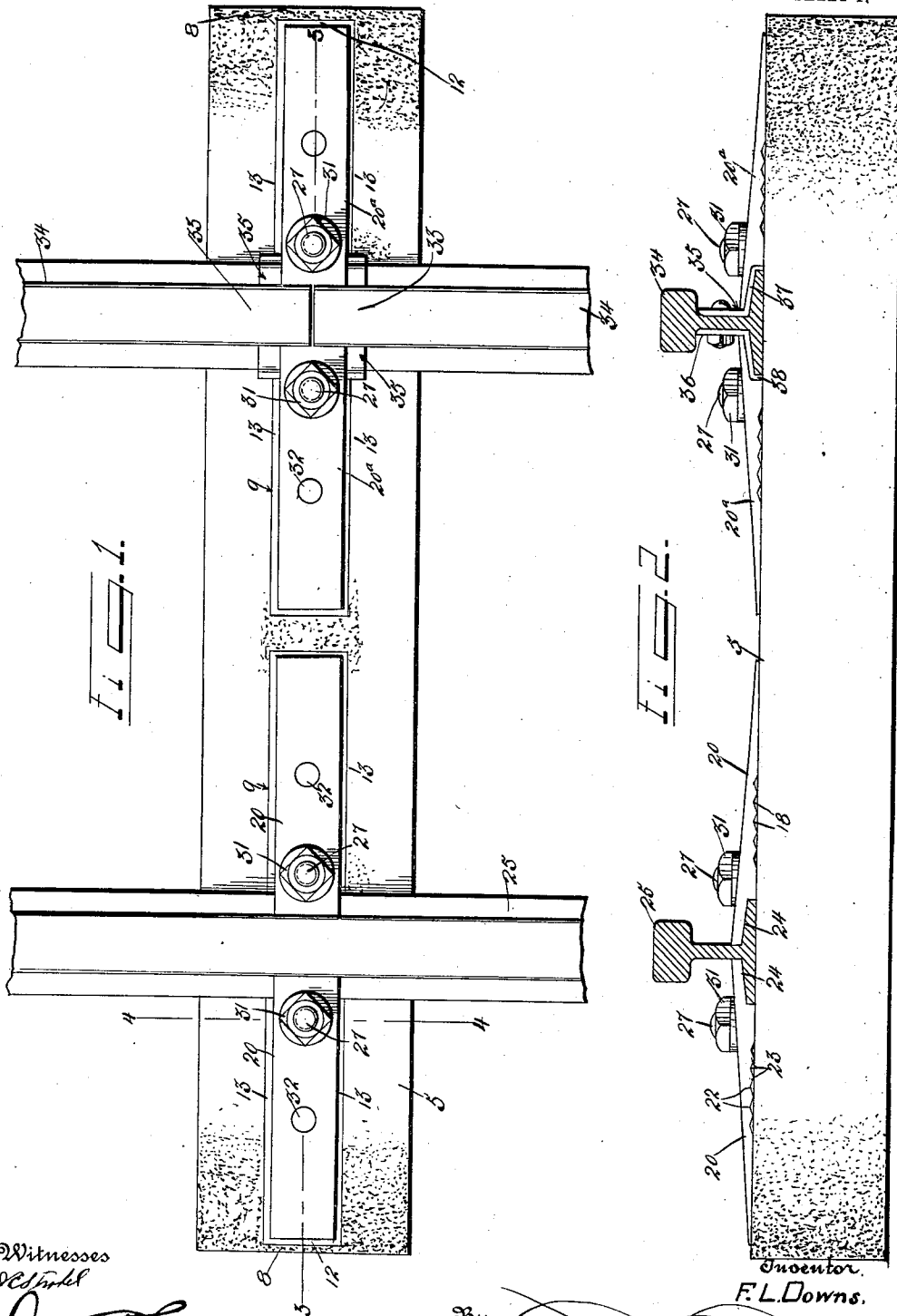


F. L. DOWNS.
 COMBINED TIE AND TRACK FASTENING.
 APPLICATION FILED MAY 18, 1911.

1,018,305.

Patented Feb. 20, 1912.

3 SHEETS—SHEET 1.



Witnesses
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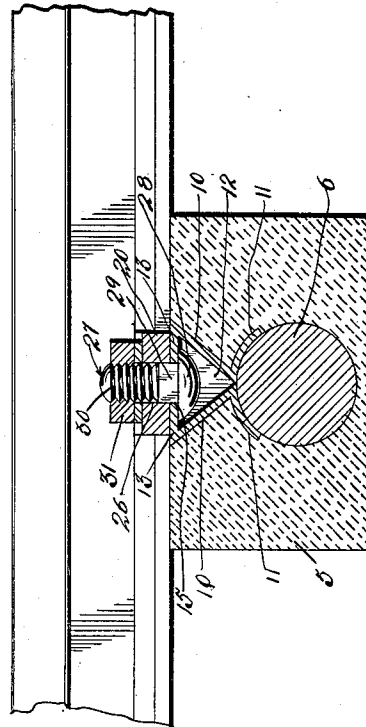
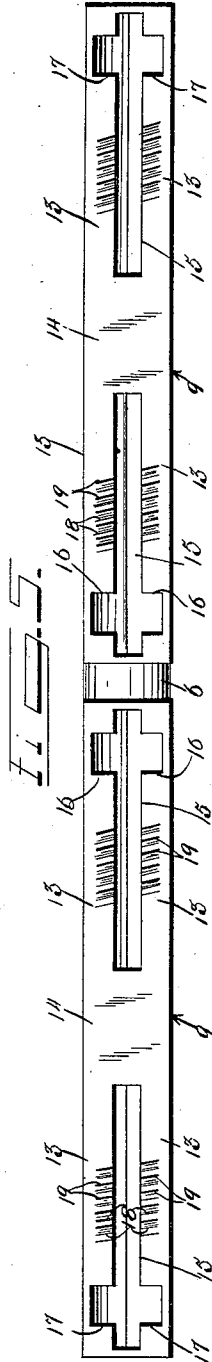
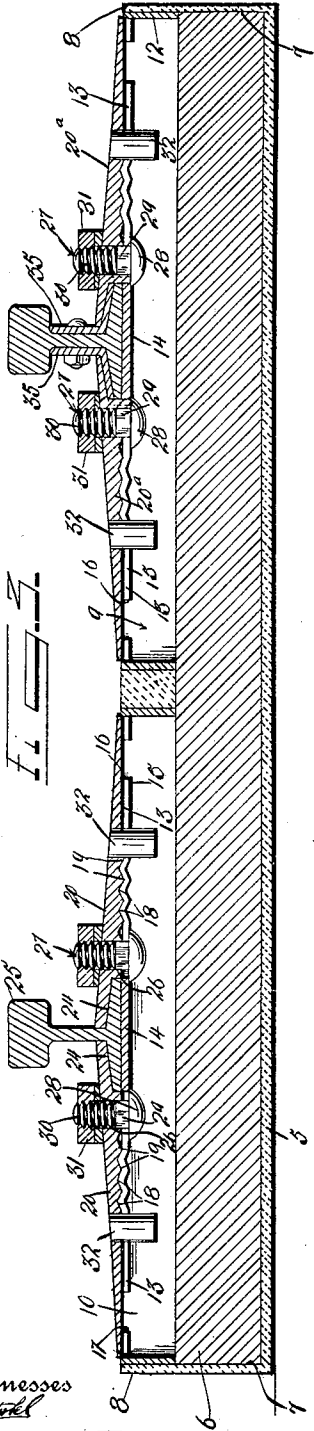
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3 SHEETS—SHEET 2.



Witnesses
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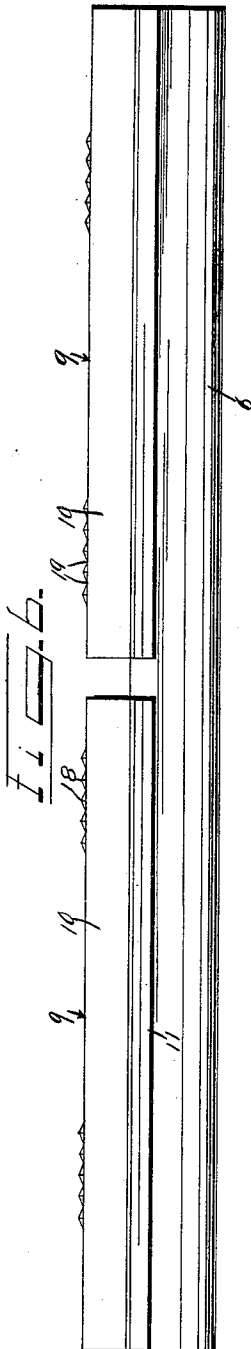
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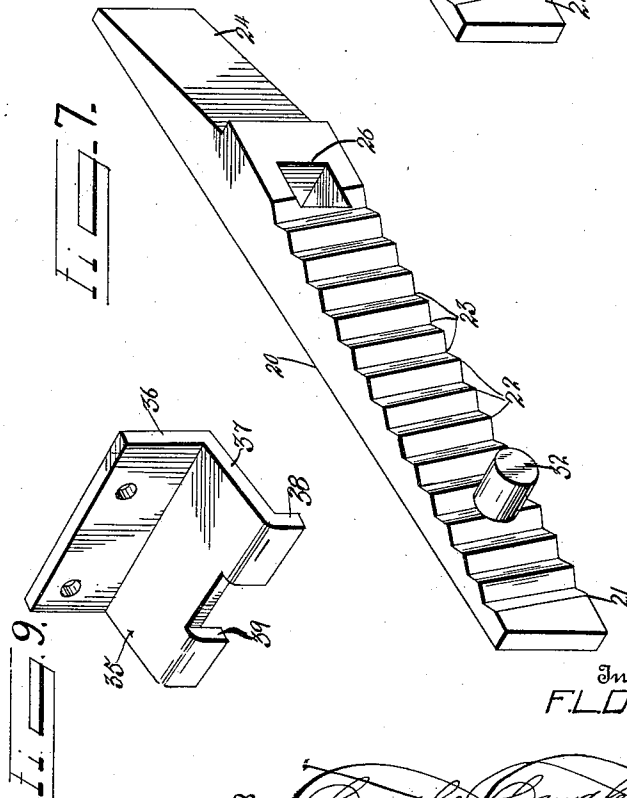
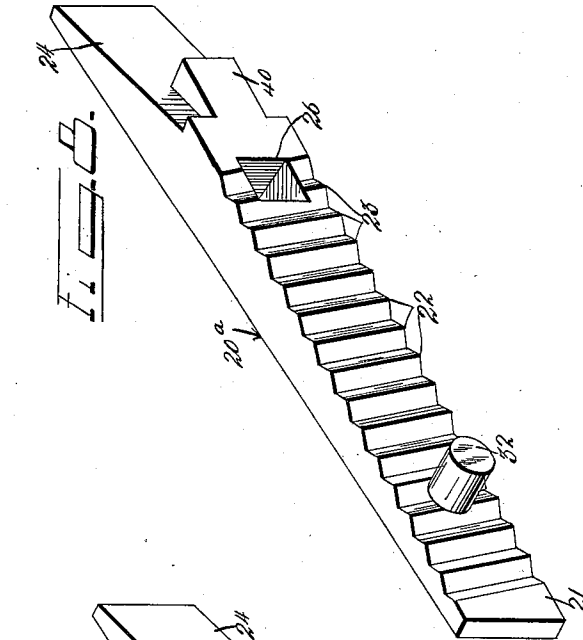
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3 SHEETS—SHEET 3.



Witnesses
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UNITED STATES PATENT OFFICE.

FRED L. DOWNS, OF GILLUM, ILLINOIS.

COMBINED TIE AND TRACK-FASTENING.

1,018,305.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed May 18, 1911. Serial No. 627,917.

To all whom it may concern:

Be it known that I, FRED L. DOWNS, a citizen of the United States, residing at Gillum, in the county of McLean, State of Illinois, have invented certain new and useful Improvements in Combined Ties and Track-Fastenings; 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.

This invention relates to an improvement in reinforced concrete ties, and has for its principal object to provide a tie of the class described in which a novel form of rail fastening means is provided.

Another object of the invention is to provide a tie and rail clamping means which consists of a minimum number of parts, is therefore simple in construction, and is durable, and is cheap to manufacture.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a plan view of my improved tie showing sections of rails secured thereto. Fig. 2 is a side elevation thereof. Fig. 3 is a longitudinal sectional view taken on the line 3—3 of Fig. 1. Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 1. Fig. 5 is a plan view of the reinforcing element. Fig. 6 is a side elevation thereof. Fig. 7 is a perspective view of one of the rail clamps. Fig. 8 is a perspective view of another form of rail clamps, and Fig. 9 is a perspective view of a fish-plate used in connection with the clamp shown in Fig. 8.

Like reference numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, the invention comprises a tie 5, the body thereof being formed of concrete or any other suitable plastic composition. Molded within the body 5 is a longitudinally disposed metallic core 6, constituting a reinforcing element,

the ends 7—7 thereof terminating in spaced relation to the ends 8—8 of the body. This core is disposed centrally of the body, and extending upwardly therefrom are spaced longitudinal hollow projections 9—9. Each projection consists of side plates 10—10 which are longitudinally bent to form oppositely directed base flanges 11—11. The lower edges of the plates are disposed in ground engagement and the flanges 11 are secured to the pipe 6 by solder or other suitable means. The plates diverge from the bottom to con-jointly form, in cross section, a V-shaped projection. The ends of each projection are closed by walls 12—12, and the upper edges of the plates are bent inwardly to form top flanges 13—13. These flanges are spaced apart and are centrally connected by a web 14 to form consequent longitudinal slots 15—15. Formed in the top flanges adjacent the ends thereof, are opposed pairs of transverse slots 16—16 and 17—17 which respectively communicate with the slots 15. The flanges 13, between the web 14 and the transverse slots, are transversely corrugated to form alternate ribs and grooves 18—19 respectively.

The invention further comprises rail clamps, each consisting of a body 20 having a base 21 formed with alternating transverse ribs 22 and grooves 23. The extreme end 24 of the base abruptly inclines upwardly to conform to the base flange of the rail 25. These clamps are disposed on opposite sides of each rail, and the ribs 22 and grooves 23 engage with the corresponding ribs and grooves 18 and 19 of the flanges of the projection. An angular opening 26 is formed in the body directly in rear of the inclined base portion 24, for the reception of a bolt 27. This bolt is formed with a head 28, a square shank 29 and a threaded extension 30 adapted to be engaged by a nut 31. Integral with the body, and projecting downwardly from the end thereof opposite said opening, is a pin 32.

In operation, after a rail 25 has been positioned upon the tie and over the web 14 of one of the projections, the rail clamps 20 are secured in place. The transverse slots 16 permit of the bolt head 28 to be inserted under the flanges 13. The clamp is then moved to engage the rail, and the pin 32 will of course be disposed within the slot between said flanges. The squared shank 29 of the bolt will engage said flanges and

thereby prevent said bolt from turning when the nut 31 is screwed home.

My invention further comprises an improved rail clamp 20^a adapted for use in connection with rail joints. The meeting ends 33—33 of rails 34 are connected by fish-plates 35—35. Each fish-plate includes a web engaging portion 36, and a flange engaging portion 37, the latter terminating in a downwardly extending lip 38 which is centrally formed with a vertical recess 39. The clamp 20^a is similar in construction to the clamp 20, with the exception of a centrally extending projection 40 adapted to be disposed within the recess 39 and thereby retain the fish-plates and consequently the meeting ends of the rails from longitudinal spreading.

What is claimed is:—

1. A combined tie and track fastening comprising in combination, a plastic body having a core embedded longitudinally therein, longitudinal projections extending upwardly from the core, each projection consisting of upwardly diverging side plates having their upper edges inwardly bent to form longitudinal flanges and a consequent longitudinal recess, and means engageable with the flanges of the projections for locking said elements to the projections.

2. A combined tie and track fastening comprising in combination, a plastic body having a core embedded longitudinally therein, longitudinal projections extending upwardly from the core, each projection consisting of upwardly diverging side plates

having their upper edges inwardly bent to form longitudinal flanges and a consequent longitudinal recess, said flanges being formed adjacent their ends with transversely disposed corrugations, and rail-clamping elements having their underfaces correspondingly formed for engagement with said corrugated flanges.

3. A combined tie and track fastening comprising in combination, a plastic body having a core embedded therein, spaced longitudinal projections extending upwardly from the core, each projection consisting of upwardly diverging longitudinal plates having their upper edges inwardly bent to form longitudinal flanges, said flanges being centrally connected by a web to form consequent longitudinal slots between said flanges, said flanges being furthermore formed adjacent the ends with transversely disposed slots communicating with the longitudinal slots, rail clamps engageable with the flanges on opposite sides of the web, and bolts having their heads disposed between the diverging plates of the projection and below the flanges thereof, the shanks of said bolts projecting through the longitudinal slots for engagement with the clamps, and means carried by the bolts for locking the clamps to the projections.

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

FRED L. DOWNS.

Witnesses:

F. L. MARCELLUS,
C. W. ROMINC.