No. 737,074. PATENTED AUG. 25, 1903.

F. B. BYERS.

RAIL JOINT.

APPLICATION FILED MAR. 16, 1903.

NO MODEL.

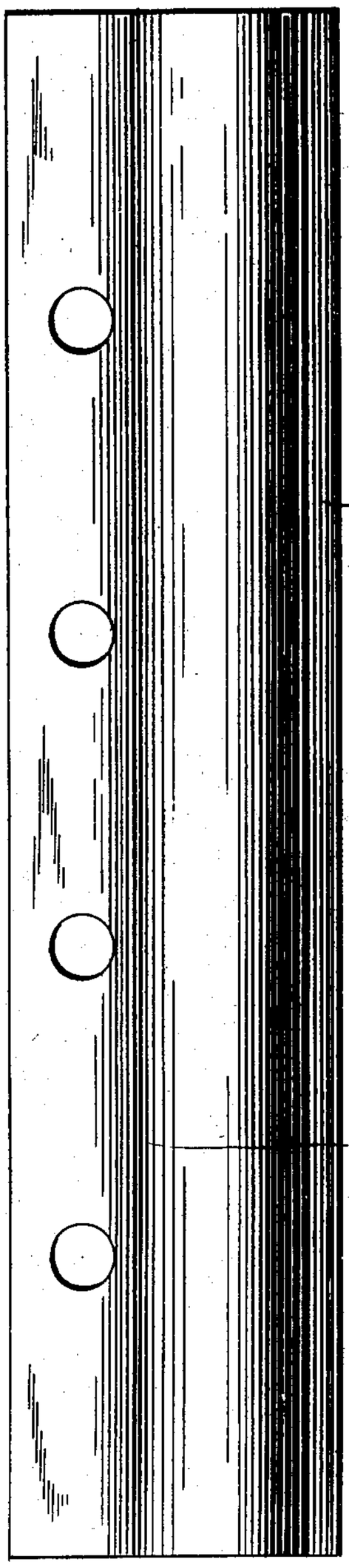

FIG. 3.

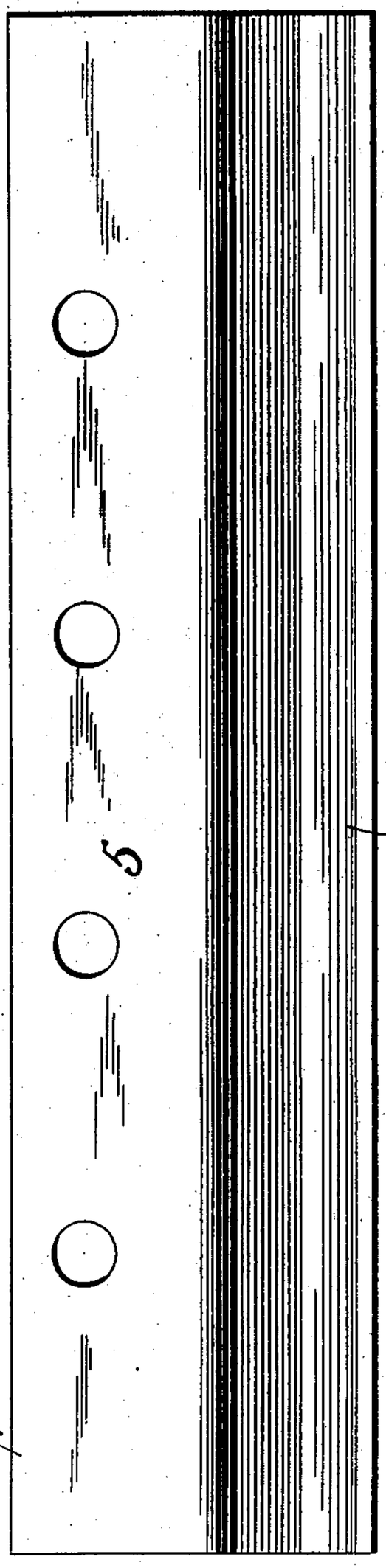

FIG. 1.

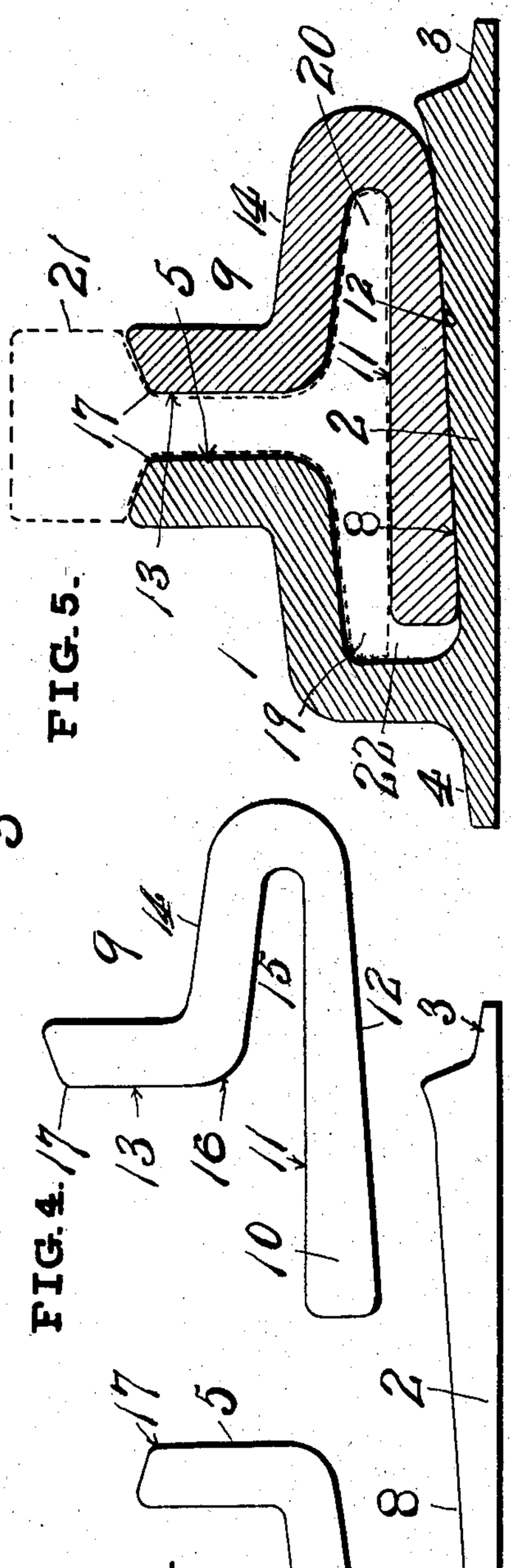

FIG. 5.

FIG. 4.

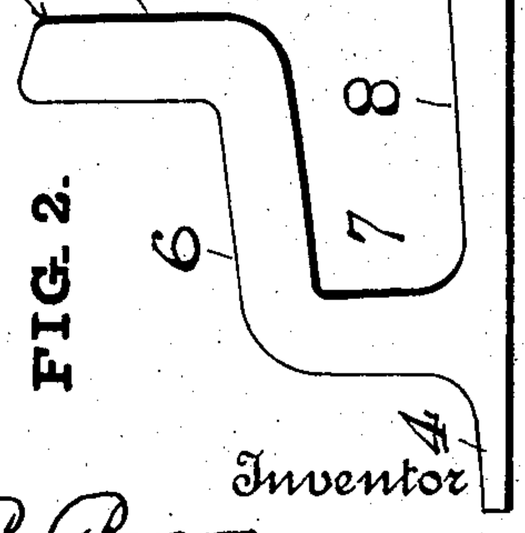

FIG. 2.

Witnesses

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 737,074. Patented August 25, 1903.

UNITED STATES PATENT OFFICE.

FIRM B. BYERS, OF ALTOONA, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 737,074, dated August 25, 1903.

Application filed March 16, 1903. Serial No. 147,989. (No model.)

To all whom it may concern:

Be it known that I, FIRM B. BYERS, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to means for uniting the adjacent ends of two railroad-track rails, the object being the provision of a joint wherein the weight of the rails and the vibrations and movements to which they are subjected by passing trains shall cause the parts constituting the joint to approach each other and remain in close and secure frictional contact, said joint to be of easy formation through the adjustment of the parts and not liable to disruption and which shall constitute a superior union for the ends of the two rails.

With this main purpose and end in view my invention consists in certain novelties of construction and combinations of parts, hereinafter set forth and specifically claimed.

The accompanying drawings illustrate an example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principle.

Figure 1 is an external view in elevation of the bottom angle-plate. Fig. 2 is an end view of Fig. 1. Fig. 3 is an external view in elevation of the top angle-plate. Fig. 4 is an end view of Fig. 3. Fig. 5 is a cross-section of the joint formed by the union of the angle-plates and the adjacent ends of two track-rails.

Referring to the several figures, the numeral 1 designates the bottom angle-plate; 2, the base portion thereof; 3, a longitudinal outwardly-extending lip or edge to be engaged by the head of a spike; 4, an outwardly-extending lip or edge also adapted to be engaged by a spike; 5, the perpendicular portion of the web; 6, the curved portion of the web uniting the part 5 and the base; 7, a recess formed between the base and the curved portion of the web, and 8 is the top inwardly-inclined surface of the base.

The top angle-plate 9 has a base 10, the top surface 11 of which is in a horizontal plane. The lower surface 12 is inclined outwardly to match the surface 8 of the bottom angle-plate. 13 is the vertical portion of the web, and 14 the curved portion which unites the web portion 13 and the edge of the base, forming a recess 15, which conforms in shape to the base-flange of a track-rail. The edges of both plates are rounded at 16 and 17 to match the curved surfaces of the fillets of the track-rail, located where the base and head join the web. The vertical portions 5 and 13 of the webs of both plates are provided with a series of holes through which are passed tie-bolts, which likewise pass through holes in the webs of the track-rails. The track-rails are of ordinary construction, having the flanges 19 20 and a head, as 21, of any desired shape. It will be observed on reference to Fig. 5 that when the plates embrace the ends of the track-rails an open space of approximately one-half inch is left at 22, which allows the edge of the base 12 to gravitate down the inclined surface 8 of the base 2 and not strike the bottom of the recess.

From the foregoing description, taken in connection with the drawings, it becomes obvious that I have produced a rail-joint which fulfils all the conditions set forth as the end and purpose of my invention. The weight of the ends of the rails upon the base 12 and the vibrations and weight of passing trains cause the said base to travel down the inclined surface 8, forcing the web 13 against the web of the rail and the flanges of the base of the rail into frictional contact with the surfaces of the recesses 15 and 7 of the plates.

While I have illustrated and described only one example of the physical embodiment of my invention, I do not thereby intend to limit the scope thereof to such specific example, inasmuch as the principle may be embodied in other forms and by other modes.

Changes in shape and proportions, modifications necessary in applications to different shapes or types of rails, and similar alterations may be introduced in practice without constituting substantial departures.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a track rail or rails, of two angle-plates having base portions each of which has a horizontal surface and an inclined surface and the base of one

angle-plate resting upon the base of the other angle-plate and so disposed to each other that the weight of the rail or rails and the weight of the train upon the rail or rails will cause the web or webs and flanges of the rail or rails to be gripped and held by the plates.

2. An angle-plate having a base with a top inwardly sloping or inclined surface, a vertical web 5 and a curved portion forming a recess 7, in substance as set forth, said plate being adapted for use with a complemental angle-plate.

3. An angle-plate having a base with a lower outwardly and downwardly inclined surface, a vertical web 13, and a curved portion forming a recess 15, said plate being adapted for use with a complemental single plate.

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

FIRM B. BYERS.

Witnesses:
JOHN WILLIAMS,
ANGUS N. TILL.