No. 790,803. PATENTED MAY 23, 1905.

J. L. POPE.

RAILWAY TIE.

APPLICATION FILED JUNE 22, 1904.

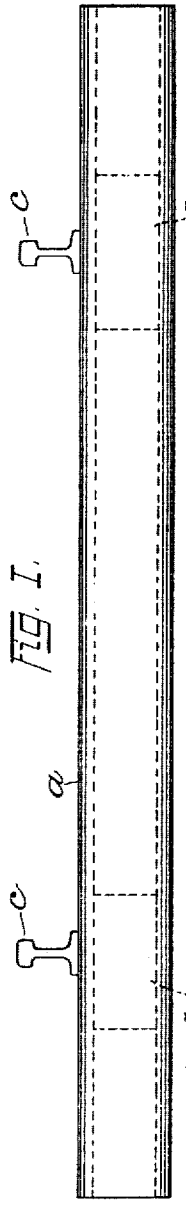

Fig. I.

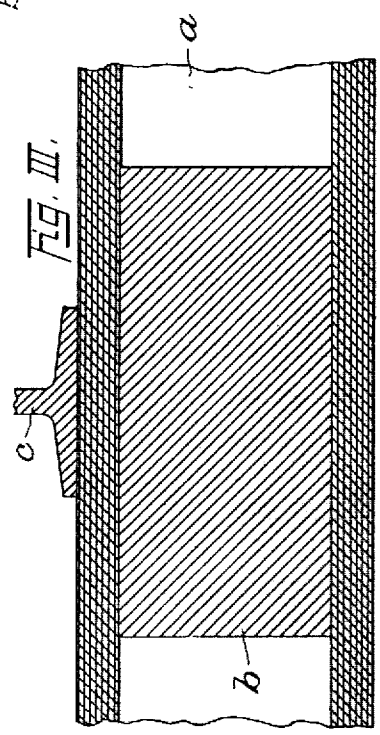

Fig. III.

Paper, waterproof cement, fibre asbestos with asphalt binder

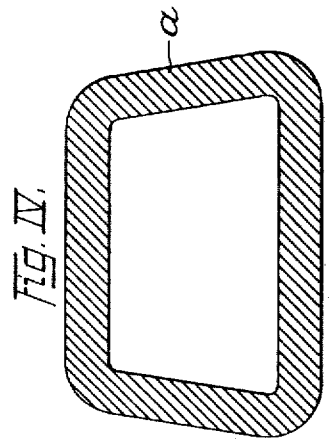

Fig. IV.

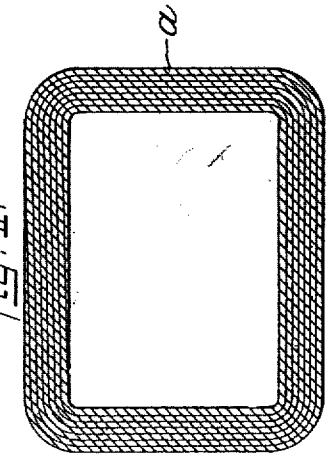

Fig. II.

Witnesses:
Jas. M. Fraser.
Edw. F. Crane.

Inventor,
John L. Pope,
by Luther G. Hopper,
Attorney.

UNITED STATES PATENT OFFICE

JOHN L. POPE, OF CLEVELAND, OHIO.

RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 790,803, dated May 23, 1905.

Application filed June 22, 1904. Serial No. 213,641.

To all whom it may concern:

Be it known that I, JOHN L. POPE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification.

My invention relates to railway-ties; and it has for its object to provide a railway-tie which is indestructible.

To these ends my invention consists in the features, arrangements, and combinations hereinafter described and claimed, an embodiment thereof being illustrated in the accompanying drawings, in which—

Figure I is a side elevation of a tie, showing the track-rails thereon. Fig. II is a cross-section of a tie. Fig. III is a longitudinal section of a portion of a tie, showing a sustaining-block. Fig. IV is a section of a modified form of tie.

The reference-letter *a* indicates a railway-tie composed of fibrous material bound into a mass with a waterproof cement, forming a hollow tube which is preferably of a rectangular cross-section having rounded corners, as shown in Fig. II. Other suitable forms of cross-sections may be employed, if desired, one of which is illustrated in Fig. IV. I prefer to form the fibrous material into sheets or to make a paper thereof and build up the tie of superimposed layers of such sheets or paper bound together by waterproof cement, as indicated in Figs. II and III, or the fibrous material and the cement may be made into a mass and then formed into the desired shape in molds. While various kinds of fiber may be used for this purpose, I consider asbestos fiber to be preferable, and a bituminous substance, such as asphalt cement, is suitable for a binder.

In order to reduce the amount of material in the body of the tie, I prefer to incorporate therein sustaining-blocks *b* at the rail-bearing portions of the tie; but it is practicable to make the shell of the tie of sufficient thickness that the blocks *b* may be dispensed with. For the said blocks *b* I do not confine myself to the use of any special material nor to any particular length or cross-section, as they may be either solid or hollow, and a single block extending under both rails may be used instead of two, as shown; but it is preferred to employ a wooden block or blocks cemented within the tie, so as to be integral therewith.

The track-rails *c* may be fastened to the tie in the usual or any suitable way.

Having now so fully described my invention that those skilled in the art to which it appertains can make and use it, either in the form shown herein or under some modification thereof, what I claim as new, and desire to secure by Letters Patent, is—

1. A tubular railway-tie of fibrous waterproof material having substantially straight walls and rounded corners, substantially as shown and described.

2. A tubular railway-tie composed of the incorporation of fibrous material and waterproof cement having sustaining-blocks incorporated in the rail-bearing portions thereof, substantially as set forth.

3. A tubular railway-tie of fibrous material and a waterproof binder having straight walls with rounded corners, and sustaining-blocks of suitable material incorporated in the rail-bearing portions thereof, substantially as set forth.

4. A tubular railway-tie of fibrous waterproof material having portions of its walls curved, substantially as set forth.

5. A tubular railway-tie of fibrous waterproof material having portions of its walls curved, and sustaining-blocks incorporated in the rail-bearing portions thereof, substantially as set forth.

6. A tubular railway-tie having walls of equal thickness composed of fibrous material in sheet form, said material being permeated with waterproof cement, substantially as set forth.

7. A tubular railway-tie having walls of equal thickness composed of fibrous material in sheet form, said material being permeated with waterproof cement, and sustaining-blocks incorporated in the rail-bearing portions thereof, substantially as set forth.

8. A railway-tie composed of waterproof paper wound into a tubular form and ce-

mented into a mass, substantially as set forth.

9. A railway-tie composed of waterproof paper wound into a tubular form and cemented into a mass, and sustaining-blocks incorporated in the rail-bearing portions thereof, substantially as set forth.

In testimony whereof I affix my signature, in the presence of two subscribing witnesses, at Cleveland, Ohio, this 21st day of June, 1904.

JOHN L. POPE.

Witnesses:
JOHN T. SULLIVAN,
EDWARD LINDSLEY.