Sept. 1, 1936. A. BURNETT 2,052,865

COMBINATION RAIL AND PIPE LINE DEVICE

Filed June 10, 1935

FIG. 1

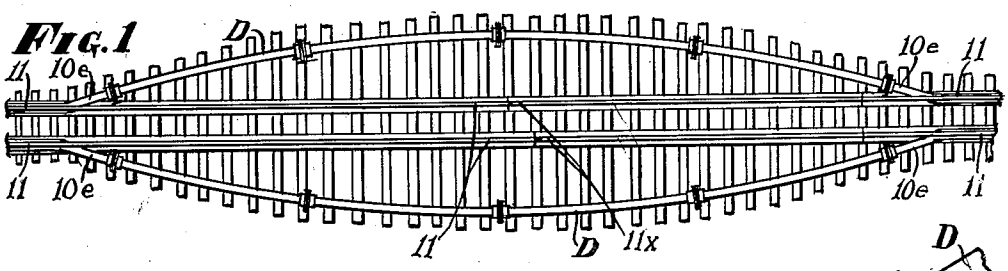


FIG. 2

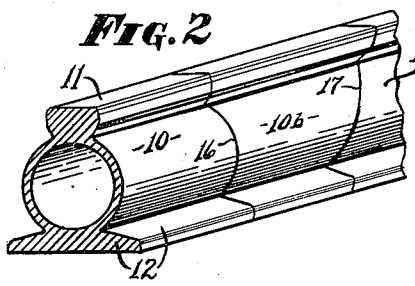
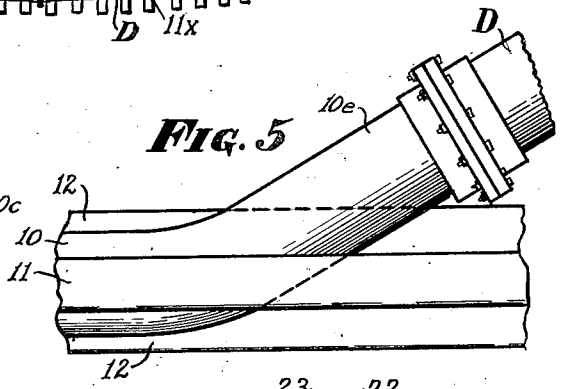


FIG. 5



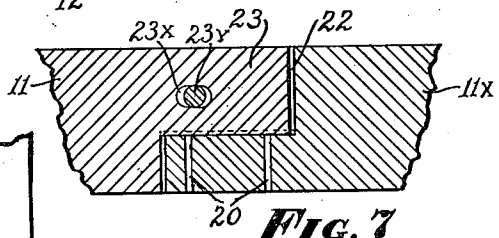


FIG. 6

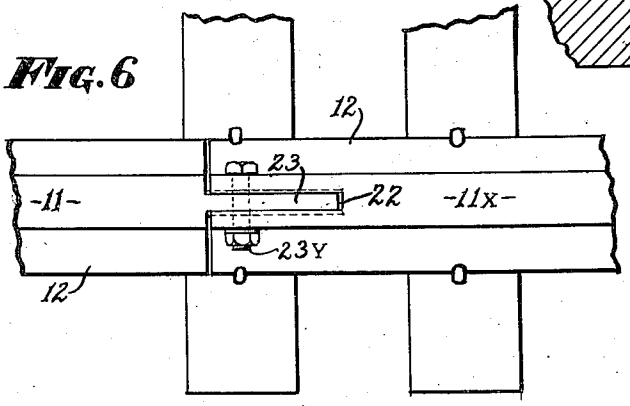


FIG. 7

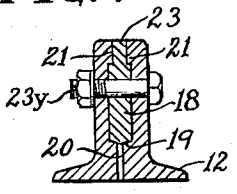


FIG. 8

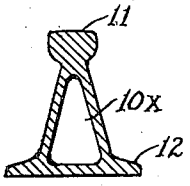


FIG. 4

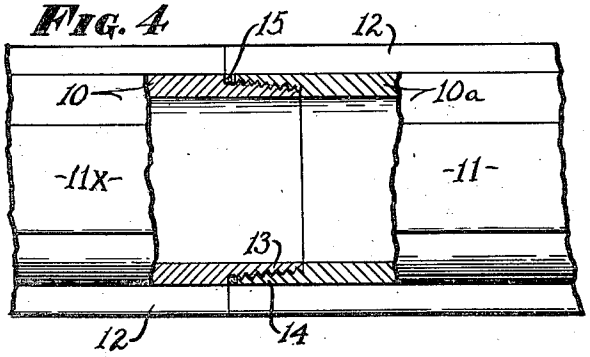


FIG. 3

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COMBINATION RAIL AND PIPE LINE DEVICE

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Application June 10, 1935, Serial No. 25,851

1 Claim. (Cl. 238—135)

My invention relates to a combination railroad rail and pipe element. The object of my invention is to provide a hollow rail which may be used for all the purposes that rails are now used and in addition thereto, the rail may be used to form a pipe line for the transport of liquids and gases.

A further object of my invention is to provide a device of the kind mentioned which will enable the rail roads to enter into the transportation of liquids or gases in competition with pipe line companies and thereby regain the business which they have lost through competition.

A still further object is to provide a device of the kind mentioned in which the rails are tightly joined together in such a manner that the wheels of a rail road vehicle may roll over the rail joints smoothly and quietly.

A still further object is to provide a device of the kind mentioned in which provision is made for the expansion and contraction of the rails and pipe lines and still retain all the smoothness of travel of wheels over the rails.

These and other objects will be more fully explained as this description progresses.

Referring to the drawing, Fig. 1 shows a section of railroad track embodying my invention. Fig. 2 is a detail in perspective of the combination rail and pipe. Fig. 3 is a cross section of a modified form of the combination rail and pipe. Fig. 4 is a detail view, partly in section showing a joint that is applicable to my combination rail and pipe. Fig. 5 is a plan view of the combination rail and pipe in which the pipe section leaves the rail section, preparatory for compensating for expansion or contraction of the rail lines. Fig. 6 is a plan view of the expansion joint for the rail lines. Fig. 7 is a vertical longitudinal, sectional view through the expansion joint. Fig. 8 is a vertical cross-sectional view through the expansion joint.

Similar numerals of reference refer to the same parts throughout the several figures of the drawing.

In the drawing is shown a tubular element 10 substituting for the customary web portion on which is formed a rail element 11 and a flange or base element 12. As shown in Fig. 4, the ends of the tubular elements 10 and 10*a* are provided with threaded male and female portions 13 and 14 so that the tubular elements 10 and 10*a* may be screwed together to form a tight joint, there being a gasket 15 positioned in the joint between the pipe elements to secure an air tight joint between the tubular elements 10 and 10*a*.

In Fig. 2 is shown the combination rail and pipe in which the joinder of the sections 10 and 10*b* is made by cutting the ends of the two sections 10 and 10*b* square and abutting the two ends together as at 16 and welding the joint to secure a tight permanent connection of the sections 10 and 10*b*. At 17 is shown a joint between the sections 10*b* and 10*c* in which the ends of the sections are cut on an angle and the two sections are welded together in the same manner as above described. It will be understood that these methods of joining the sections are only illustrative of two ways of making the joint and other suitable methods or means of joining may be employed without departing from the spirit and intention of my invention.

In Fig. 3 is shown a cross section of a combination rail and pipe in which the pipe is of triangular shape 10*x* instead of round as shown in Fig. 2. It is obvious that a section of a pipe triangular in shape cannot be screwed together, therefore in this instance welding or bolting and the like is preferable.

It is a well known fact that long connected lines of steel, such as exists in rail lines will lengthen or shorten due to expansion or contraction caused by changing weather temperatures; therefore it is necessary that provision be made to compensate for this expansion or contraction. In view of this fact, I have provided a compensating loop section D in the pipe line which is laid in a curved position as shown in Fig. 1 and as the combination rail and pipe line lengthens or shortens under temperature changes, the curved portion D of the pipe line will increase or decrease to a longer or shorter radius and thereby absorb the existing expansion or contraction without making an opening in the pipe line for leakage of the contents of the pipe line.

Inasmuch as it is necessary for the rail portions to continue in definitely spaced parallel lines it is obvious that the pipe line must leave the rail line in the compensating loop D. Therefore as shown in Fig. 5, I have provided a combination rail and pipe section, at the left of the figure the tubular pipe portion constitutes the web intermediate the rail 11 and the base 12. At 10*e* the pipe portion 10 forks outwardly from the rail, it being understood that the rail 11 and the base 12 at the right of the figure are integrally connected by a conventional web section. The pipe portion 10*e* may be provided with pipe connections as shown, or so as to be readily connected to other pipe sections in the compensating loop section D as will be readily understood.

Since the rail portions must continue in substantially straight parallel lines it is obvious that provision must be made to compensate for the expansion and contraction, above mentioned, in the straight line. Now in Figs. 6, 7 and 8 is shown an expansion joint for the rail portion of my device. A rail is formed in the usual manner except at the ends as seen in Fig. 7. The overlapping of the adjacent rails may be projected or retracted under expansion or contraction and yet maintain a continuous line of steel for a rail vehicle wheel to roll on.

In one end of the rail 11*x* in Fig. 8 is formed a pocket 18, the lower face 19 of which is slightly V-shaped in form and holes 20 extend from the bottom of the pocket 18 downwardly through the rail to form a drainage passage for the pocket. The upper edges of the pocket 18 extend inwardly as shown at 21 and have a slot 22 in the upper face of the rail 11*x*.

On the end of the rail 11 is a tongue 23 formed to fit in the pocket 18 and slot 22 in the rail 11*x* so that when the tongue 23 is slipped into the pocket 18, the upper face of the rail 11*x* and the upper face of the tongue 23 are flush and the lower edge of the tongue 23 rests on the bottom 19 of the pocket 18 and is thereby provided with a solid bearing so it will support the wheel that is to pass over it.

At 23*x* is an elongated hole through the male and female members of the rail, 11 and 11*x*, through which passes a bolt 23*y* to secure the sides of the female member from splitting or breaking off under the thrust of the flange of a power wheel.

Such modifications of my invention may be employed as lie within the scope of the appended claim without departing from the spirit and intention of my invention. Now having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

In a combination rail and pipe section, a base element and a tread element integrally connected by a web element; said web element forming a tubular section for a distance inwardly from one end thereof, thence being outwardly diverted as a pipe branching from the axis of the rail section.

ARTHUR BURNETT.