

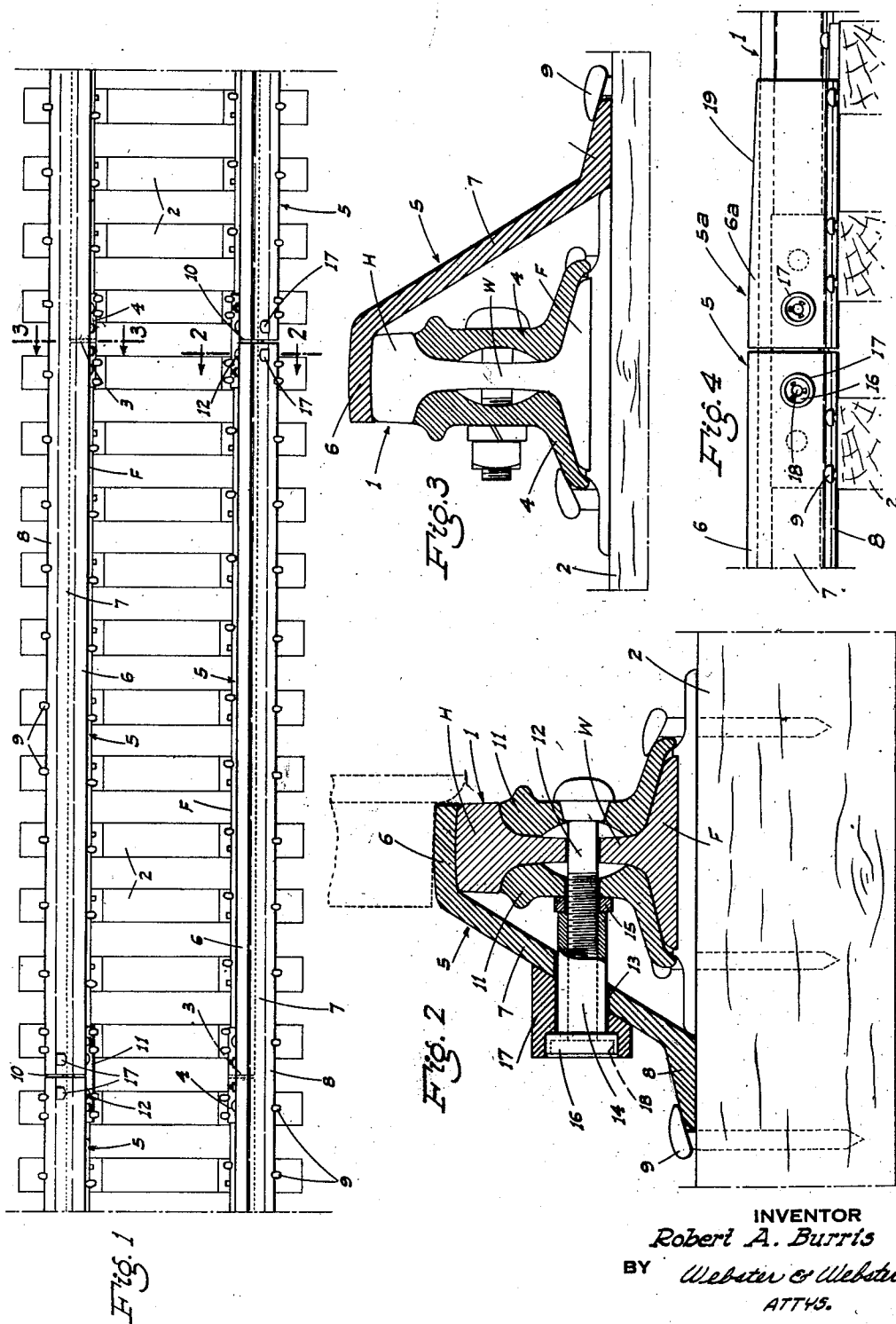
Sept. 17, 1957

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2,806,656

SPREAD AND TILT PREVENTING RAIL COMBINATION

Filed March 31, 1955



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2,806,656

## SPREAD AND TILT PREVENTING RAIL COMBINATION

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Application March 31, 1955, Serial No. 498,245

1 Claim. (Cl. 238—220)

This invention relates to railroad tracks, and particularly to the rails which carry the rolling stock of a railway.

The major object of my invention is to provide a novel form of rail, adapted to be laid on and utilize the usual already laid rails as a foundation and without change, which adds a safety feature to the track in that lateral tilting and spreading of the rails is prevented and the accidents arising from such rail spreading are avoided, and much of the usual clicking noise now heard as the wheels of a train pass over the rail joints is eliminated.

A further object of the invention is to provide a safety railroad rail which is designed for ease and economy of manufacture, and the replacement of which, when necessary due to wear, is an easily performed and much less costly operation than is involved in replacing the main rails. With my invention the main rails are not subject to any wear, and are not disturbed when the improved safety rails are released.

Still another object of the invention is to provide a practical, reliable, and durable safety railroad rail, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings:

Fig. 1 is a fragmentary plan view of a railroad track which includes my improved safety rails.

Fig. 2 is an enlarged cross section on line 2—2 of Fig. 1.

Fig. 3 is a similar view on line 3—3 of Fig. 1.

Fig. 4 is a fragmentary side elevation of the trackage, showing a termination rail member of the novel rail structure.

Referring now more particularly to the drawings, and to the characters of reference marked thereon, an ordinary railroad track on which my improved rails are mounted comprises transversely spaced rails 1 of T-form, and whose base flanges F are mounted on, and spiked to, cross ties 2. The rails of each side of the track are spaced apart slightly at their adjacent end, as at 3, to allow for expansion, and at such ends the webs W of the rails are connected by fish plates 4, as is usual.

Such rail ends are customarily disposed between adjacent ties, and hence are unsupported thereby. This causes a relative vertical displacement between the ends of the rails as the wheels of the heavy rolling stock travel thereover, causing the clicking noise previously referred to, and an ultimate wearing down of the rails at their ends, which has a vibratory effect on the rolling stock.

These disadvantageous features are avoided by the use of my improved rails, which in combination with the rails 1 as a foundation, are constructed and arranged as follows:

The improved rails for each line of rails 1, and indicated generally at 5, are the same length as said rails 1,

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and each such rail 5 includes a top or wear strip 6 which flatly rests on, and hence follows the flatly curved contour of the head H of rails 1, as clearly shown in Figs. 2 and 3.

Formed with the strip 6, and depending from the outer side thereof—relative to the opposed rail 1—to the level of the ties 2, is a skirt 7 which slopes downwardly in a direction laterally away from the adjacent rail 1. At its lower end, skirt 7 terminates in a relatively narrow flange 8 resting on the ties 2 and projecting laterally out from the skirt. This flange provides for the mounting of the rails 5 in connection with rails 1, by means of spikes 9 engaging the outer edge of the flange 8 and driven into the ties, as shown.

The rails 5 are set on rails 1 so that the separation 10 between adjacent ends of rails 5 is midway between the separate adjacent ends of the rails 3, as shown in Fig. 1.

In this manner the separation 3 between adjacent rail heads H is covered by the wheel-engaging top or head strip 6 of a rail 5, while the ends of adjacent rails 5 ride on the continuous solid head H of the rail thereunder, as shown in Fig. 1. Wear of the rails 5 and noise due to wheels passing thereover is thus eliminated, since there can be no relative vertical displacement of the rail strips 6 at their adjacent ends.

In order to prevent any possible lateral displacement of the rails 5 at their adjacent ends relative to each other and to the corresponding rail 1, fish plates 11 are engaged with the web W in spanning relation to the separation 10 between adjacent rails 5.

Bolts 12 project through the fish plates 11 and rail 1 in the direction of the skirts 7 of said rails 5, and in position to axially aline with holes 13 therethrough formed in the skirts.

Elongated sleeve nuts 14 project through the holes 13 and engage over the adjacent threaded end of the corresponding bolts 12; a conventional lock washer 15 being disposed between the sleeve nut and the adjacent fish plate 11.

At its outer end, which is laterally out from the related skirt, each sleeve nut is formed with an enlarged circular head 16 fully countersunk in a socket member 17 which also embraces the adjacent portion of the body of the nut. Member 17 is cut at its laterally inner end to abut flatly against the outer sloping face of the skirt, as shown in Fig. 2. The head 16 is formed with a recess 18 of odd configuration (see Fig. 4) to take a specially shaped wrench head (not shown), so that the danger of the nuts being removed—for sabotage purposes or the like, by unauthorized persons—is minimized.

In connection with the above described rails 5, which are used on the main-line section of the railway, I utilize auxiliary, relatively short rail members 5a when it is desired or necessary that the wheels of the rolling stock shall engage the rails 1 directly, as at frogs, switch points, crossovers, and the like.

To this end, the upper rail-engaging surface 6a of each such member 5a, whose transverse form is the same as that of rails 5, is generally tapered or feathered down to its free end, as shown at 19 in Fig. 4, so that the wheels can move onto or leave rails 1 without any appreciable jar.

From the above description it will be seen that a rail structure has been provided with which much the objectionable clicking noise of the wheels passing over the rails has been eliminated, while a safety factor has been added in that the outwardly and downwardly sloping skirts 7 of the rails 5, and which skirts are held against lateral outward movement at their lower end by the spikes 9, prevent laterally outward tipping and spreading of the foundation rails 1, as well as of the rails 5 themselves,

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From the foregoing description it will be readily seen that there has been produced such a device as will substantially fulfill the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations therefrom may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

In a railroad rail combination which includes a rail having a head and a web, fish plates on opposite sides of the web and a rail member separate from the rail and including a wheel-engaging wear strip resting on the rail head and a skirt depending at an outward slant from the strip on the laterally outer side of the rail from immediately adjacent the head; means clamping the skirt to the fish plate on the side of the rail opposite the skirt and the fish plates to the rail web, said means comprising a bolt extending through the fish plates and web and projecting toward the skirt, a head on the bolt engaging the

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fish plate on the side of the rail opposite the skirt, a sleeve nut turnably projecting through the skirt and threaded onto the adjacent end of the bolt, a lock washer on the bolt and engaging the adjacent fish plate and the inner end of the sleeve nut, and an enlarged head on the outer end of the sleeve nut arranged for wrench engagement; there being a member about the sleeve nut under the head thereof and engaging said head and the adjacent surface of the skirt.

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