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METHOD OF FILLING GAPS IN PERMANENT RAIL BEDS

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FIG. 1

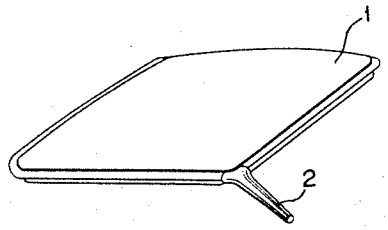
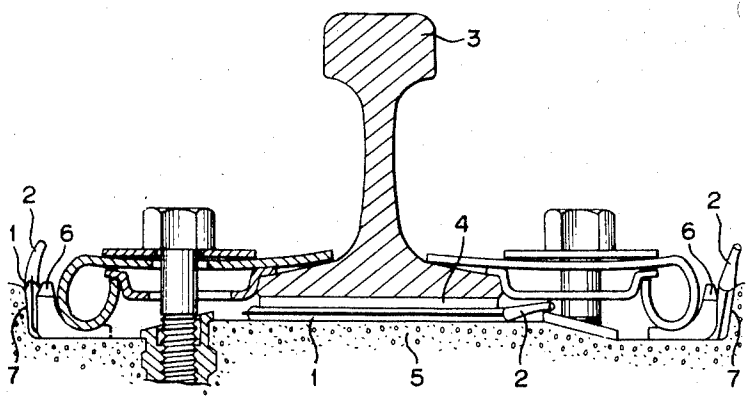


FIG. 2



INVENTOR.
Yutaka Sato

By:
Attorney.

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METHOD OF FILLING GAPS IN PERMANENT RAIL BEDS

Yutaka Sato, Tokyo, Japan, assignor to Japanese National Railways, Tokyo, Japan, a corporation of Japan

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2 Claims

ABSTRACT OF THE DISCLOSURE

The disclosure deals with a construction pad which is formed as a flat bag that is inserted in voids or gaps between contacting structures, and is then filled with liquid synthetic resin which on early completed cure by an added curing agent permanently fills out the void or gap.

This invention relates in general to construction padding for uniformly supporting a structure on a more or less uneven surface of a prepared base, and more particularly to readily adjustable pads for this purpose.

Since in rail track construction, for example, it is difficult to hold the surface of a prepared base, such as that of a large concrete slab, in a precise plane, there are usually varying voids between the base and a rail and a tie plate and rubber pad interposed between base and rail. Hitherto, it has been customary to insert some pieces of packing into these voids eventually to iron out irregularities on the rail surface. This expediency of inserting packing pieces has, however, drawbacks in that it is laborious and not fully effective.

The present invention has for its object to provide pads which will readily fill these variable voids quickly and permanently.

A further object of this invention is to provide pads of this type which lend themselves equally well for rail track repair as well as for new track constructions.

Hereinafter, this invention will be described in detail with reference to the drawings showing an embodiment of this invention, in which:

FIG. 1 is a perspective view of a construction pad according to this invention;

FIG. 2 is a cross sectional view of an exemplary rail construction on a concrete base.

Referring now to FIG. 1, the reference numeral **1** designates a pad in the form of a flat bag which is made of relatively thin and flexible sheet material, such as suitable synthetic resin, for example, and the same provided with in inlet **2** through which liquid synthetic resin is injected at low pressure to inflate the bag until it fills out the void it encounters. The inlet **2** of the bag **1** is then sealed with string or tape, and when the synthetic resin is cured, the bag will function as a pad according to the invention.

The primary and curing agents of the liquid synthetic

resin may be stored in separate tanks, for example, from which they are admitted to a common outlet in which they mix and, hence, start the curing reaction. Further, the synthetic resin may be mixed with a filling agent, such as glass tips or the like, to increase the bulk of the synthetic resin or to reinforce it. Curing time can be controlled quite easily by simply increasing or decreasing the amount of the curing agent.

An embodiment of this invention will be described with reference to FIG. 2. This embodiment is applicable in the case in which a void or space between a concrete base **5** and the rubber pad **4** for a rail **3** is to be filled. Firstly, the empty pad **1** is inserted into this void. Empty bags **1** may advantageously be also inserted in the space or clearance between spring shoes **6** and thrust bearing formations **7** on the concrete base. On then injecting in these pads **1** liquid synthetic resin and letting it cure, the voids or spaces under the rail **3** and between the spring shoes **6** and thrust bearing formations **7** on the base will be filled in a short period of time and the fillers thus applied will last permanently, with the spaces being thus filled regardless of their size. Even when a bag **1** of synthetic resin sheet may wear out by friction in actual use, no trouble will arise. If a suitable adhering agent is applied to the upper and lower surfaces of the bag **1**, the bag packing will not move from its set position.

Although the invention has been described with reference to particular embodiments thereof, they may be modified in various ways without departing from the scope of the invention.

I claim:

1. A method of permanently filling a gap of any disposition between a prepared concrete rail bed and a permanent rail assembly thereon, with the gap being open to the outside, which comprises providing a flat flexible bag which is closed except for a tubular inlet at one end; inserting in the gap the flat bag with its inlet accessible at the outside of the gap; forcing into the inserted bag through the inlet thereof liquid resin with an added curing agent at sufficient pressure to expand the inserted bag into firm form-fit with the adjoining structures; and while maintaining the liquid in the bag at said pressure at which it is in form fit with the adjoining structures, closing the inlet, whereby on completed cure of the resin in the bag the latter forms a permanent form-fitting filler pad in the gap.

2. A method as in claim **1** in which the inlet of the bag is a tubular spout, and the same is closed by tie-up with outer wrapping.

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DRAYTON E. HOFFMAN, *Primary Examiner.*

R. A. BERTSCH, *Assistant Examiner.*