May 30, 1933. J. M. CINNAMOND 1,911,433

SLEEPER

Filed May 15, 1929

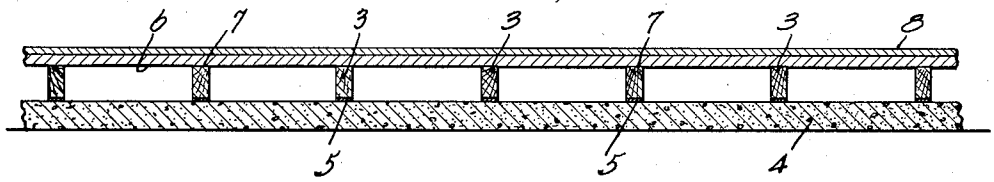


Fig. 1.

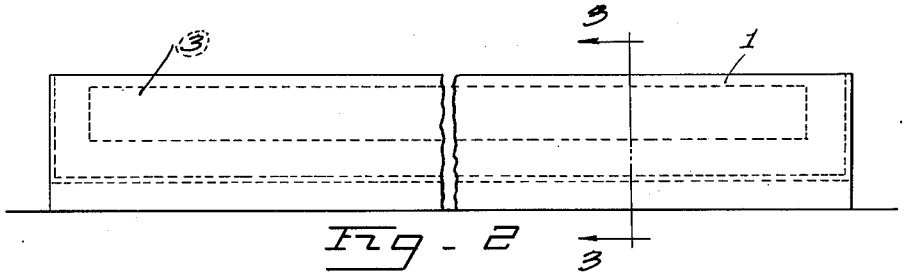


Fig. 2

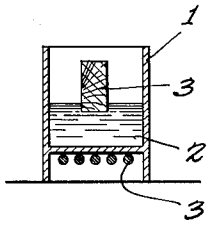


Fig. 3.

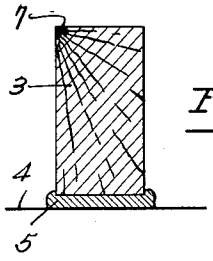


Fig. 4.

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UNITED STATES PATENT OFFICE

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SLEEPER

Application filed May 15, 1929. Serial No. 363,408.

The present invention relates to improvements in the method of anchoring sleepers to concrete or the like, and particularly by means of a waterproof mastic. The mastic which I employ is described in my copending application, Serial No. 431,058, which was filed on February 24, 1930 as a divisional application of the instant case. This mastic contains asphaltum as its principal ingredient, and is superior to ordinary asphaltum insofar as it is not hardened by exposure, and is not subject to cracking or crystallizing.

In order that the present method of attaching sleepers to concrete or the like can be fully understood, I will first describe the mastic and the manner in which the same is produced.

If ordinary asphaltum of good quality were used for this purpose, it would not have sufficient body to form an effective cushion and binding means between the sleeper and the concrete foundation. Furthermore, it would set too quickly to allow any adjustment and positioning of the sleeper even a few seconds after the application of the asphaltum. Also, the asphaltum would tend to harden and crack in time and cause the wooden sleepers to dry-rot or separate from its bed.

In this copending application, I produced the mastic by mixing fibrous binder to the asphaltum and preferably also mixing a quantity of creosote. For fibrous binder I have used, with good results, wood dust and asbestos. The wood dust should be made from good kiln-dried hardwood, and I prefer to use both wood dust and asbestos in the same mix, the asbestos element tending to produce a congealing body, while the wood dust has more of a tendency to make the body of the mastic spongy and produces a certain cushioning effect. It will be realized, of course, that asbestos is more expensive than wood dust and that in proportioning these ingredients, it is well to keep the point of expense in mind.

For my particular purpose, I have found it best to mix the ingredients in substantially the following proportions:

1 ton of asphaltum to 80 pounds of fine wood dust, 10 pounds of asbestos and 20 gallons of creosote.

The creosote has a tendency to slightly delay the setting of the mastic so that a sleeper set in the mastic may be slightly moved and adjusted even after it has been setting forty-five seconds or even a minute.

I produce my mastic preferably in the following manner:

I bring a ton of asphaltum to the boiling point by application of heat, and then mix the wood dust, asbestos and creosote into the asphaltum in the proportions set forth hereinabove. I then stir the mixture well while keeping it at boiling temperature for thirty minutes or more.

The method of anchoring the sleepers to a concrete floor or the like is illustrated in the accompanying drawing, forming a part of this application, in which:

Figure 1 is a section through a floor constructed in accordance with the present invention;

Figure 2 is a side view of a trough in which the sleepers are dipped prior to being applied to the floor;

Figure 3 is a section taken along line 3—3 of Figure 2; and

Figure 4 represents an enlarged view of a sleeper anchored to the floor.

In carrying the instant invention into practice, I make use of a trough indicated generally at 1 that is adapted to receive a quantity of mastic 2 therein, and have heating means 3 associated therewith for heating and maintaining the mastic in a plastic state.

The trough may be of any desired shape, and is made of sufficient length to receive a sleeper 3 with the lower surface of the latter dipping into the mastic. The dipped edge of the sleeper is then set on the concrete 4 so as to interpose a layer of mastic 5 between the sleeper and the floor. A number of sleepers are arranged in spaced relation with each other as shown in Figure 1, and are properly adjusted before the mastic hardens.

The floor is now applied to the sleepers, and I have shown a sub-floor 6 as connecting

the tops 7 of the sleepers together, and the hardwood floor 8 is subsequently applied in the usual manner. Under certain conditions the sub-floor may be omitted, and in this case the hardwood strips would be somewhat thicker.

Tests made by me prove that the mastic has a tremendous power of adhesion, and that it is impossible for any normal force to pull a sleeper thus set from the concrete foundation. There is no possibility of any part of the sleeper pulling loose or buckling, and the operation of setting the sleeper is extremely simple and easily carried out. The interposed body of mastic remains pliable, but is weight resisting and no dampness can pass through the same.

While I have shown only the preferred form of my invention, it should be understood that various changes of modifications may be made within the scope of the appended claim without departing from the spirit of the invention.

I claim:

A flooring comprising a concrete base, sleepers secured to the base by a mastic containing asphaltum, a fibrous binder such as wood dust and asbestos, and creosote, and a flooring secured to the tops of the sleepers.

JOSEPH M. CINNAMOND.