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(72) Inventor ALAN WILLIAM NASH

(19)



(54) MANUFACTURE OF SCALE MODEL HANDRAILS

(71) We, ROVEX LIMITED, a British Company of Westwood, Margate, Kent CT9 4JX, do hereby declare the invention, for which we pray that a Patent may be granted to us, and the method by which it is to be performed to be particularly described in and by the following statement:—

This invention relates to the manufacture of handrails for fitting to scale models of railway and other vehicles, ships, aircraft and so forth.

Real steam locomotives invariably had handrails stretching the length of the boiler on each side and frequently additional shorter lengths around the cab and front so that the crew could move all over the outside of the locomotive safely to effect adjustments. Modern diesel and electric locomotives and other items of rolling stock also have lengths of handrail to facilitate crew movement.

To represent these handrails and their support stanchions accurately in miniature models down to scales of 76:1, 85:1 and smaller involves extremely intricate components which are difficult to fabricate, difficult to assemble and fragile when fitted. They are in consequence expensive.

With the general object of eliminating these difficulties and simplifying manufacture of such articles there is proposed in accordance with the present invention a method which comprises locating a length of correctly scaled diameter wire along a channel in one part of a mould of which the other part has a complementary alignable channel, one at least of the mould parts having a series of grooves which intersect said channel at longitudinal intervals and which are shaped for the moulding of support stanchions, injecting plastics material into the grooves when the mould is closed, and, after the plastics material has set, opening the mould and removing

the finished model handrail complete with support stanchions fixed thereto.

Preferably the channels in each mould part are semi-cylindrical and at one end each groove is of reduced width so as to result in the formation of a peg which is insertable into a corresponding hole formed in the side of the body of the model vehicle—for instance the boiler of a model locomotive. The other end of each groove will normally be spherical so as to result in the formation of a support stanchion ball.

Preferably it is arranged to feed the liquid plastics material through the peg ends so that the feed gate will be hidden after assembly. The material flows right round the wire at the ball end thus fixing all the support stanchions to the wire simultaneously.

It is a simple assembly operation to push the pegs on the ends of the stanchions into the holes in the body and provided the dimensions correspond correctly it has been found unnecessary to heat seal the pegs on the inside of the body or boiler.

It is possible to feed continuous wire into the mould direct from a coil and for the operation of closing the mould to act as a cropping operation when required so that only complete lengths of wire, with their stanchions attached, are ejected from the other end of the mould.

By similar means slight abrasions may be made to the wire before it is seated in the channel of the mould and these serve to give the plastic stanchions a better grip on the wire.

This method produces a neat and strong handrail and is inexpensive to produce. It can be used to produce handrails of any required length and, with a suitably constructed mould, of varying shapes to coincide with different contours.

A typical scale model handrail intended for a scale model train locomotive, and pro-

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duced by the method of the present invention, is illustrated in the accompanying drawing in which:—

Figure 1 is a side elevation of the hand-rail; and

Figure 2 is an enlarged scale section on line A-A of Figure 1.

Referring now to the drawing, the scale model handrail there shown comprises a straight length of metal wire 1 representing a handrail having attached thereto by moulding a series of spaced stanchions 2 made of synthetic plastics material. Each such stanchion 2, as shown in Figure 2 comprises a mainly spherical head 2a which embraces the wire 1, a frustro conical body part 2b with a cylindrical base and a peg part 2c with chamfered end adapted to be inserted into, and secured to, a boiler casing hole.

This handrail and its support stanchions is manufactured in a two part mould of which each part has a semi-cylindrical channel dimensioned so as snugly to receive the metal wire 1 and a series of grooves which intersect the channel at longitudinal intervals and which are shaped for the moulding of the support stanchions 2.

After the metal wire 1 has been located in the semi-cylindrical channel of one mould part, the complementary mould part is closed down and plastics material is injected into the grooves. After the plastics material has set, the mould parts are separated and the finished model handrail, complete with support stanchions fixed thereto in the manner shown in the drawings, is removed.

WHAT WE CLAIM IS:—

1. A method of manufacturing a scale model handrail which comprises locating a length of correctly scaled diameter wire along a channel in one part of a mould of

which the other part has a complementary alignable channel, one at least of the mould parts having a series of grooves which intersect said channel at longitudinal intervals and which are shaped for the moulding of support stanchions, injecting plastics material into the grooves when the mould is closed, and, after the plastics material has set, opening the mould and removing the model handrail with support stanchions fixed thereto.

2. A method as claimed in claim 1 in which there is used a mould of which each mould part has a semi-cylindrical wire-receiving channel, each groove being of reduced width at one end and spherical at its other end.

3. A method as claimed in claim 1 or claim 2 in which a continuous wire is fed into the mould and is cropped off by the operation of closing the mould.

4. A method as claimed in any of claims 1 to 3 wherein the wire is abraded before it is seated in the mould channel.

5. A method as claimed in any of claims 1 to 4 wherein the plastics material is injected into an end of the groove remote from the wire receiving channel.

6. A method of manufacturing a scale model handrail substantially as hereinbefore described.

7. A scale model handrail as manufactured by the method of any of the preceding claims.

8. A scale model handrail manufactured substantially as hereinbefore described with reference to, and as shown in, the accompanying drawing.

MARKS & CLERK,
Chartered Patent Agents,
57-60 Lincolns Inn Fields,
London, WC2A 3LS.
Agents for the Applicant(s).



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1. A method of manufacturing a scale model handrail which comprises locating a length of correctly scaled diameter wire along a channel in one part of a mould of

which the other part has a complementary alignable channel, one at least of the mould parts having a series of grooves which intersect said channel at longitudinal intervals and which are shaped for the moulding of support stanchions, injecting plastics material into the grooves when the mould is closed, and, after the plastics material has set, opening the mould and removing the model handrail with support stanchions fixed thereto.

2. A method as claimed in claim 1 in which there is used a mould of which each mould part has a semi-cylindrical wire-receiving channel, each groove being of reduced width at one end and spherical at its other end.

3. A method as claimed in claim 1 or claim 2 in which a continuous wire is fed into the mould and is cropped off by the operation of closing the mould.

4. A method as claimed in any of claims 1 to 3 wherein the wire is abraded before it is seated in the mould channel.

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