

[54] OVERHEAD TRACK ASSEMBLY

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[22] Filed: Jan. 2, 1974

[21] Appl. No.: 429,753

[30] Foreign Application Priority Data

Jan. 3, 1973 France 73.00654

Mar. 2, 1973 France 73.08215

[52] U.S. Cl. 104/107; 105/155

[51] Int. Cl. B61b 3/00

[58] Field of Search 104/89, 91, 93, 94, 95, 104/106, 107, 108, 109, 110, 111; 105/148, 105/150, 154, 155; 198/177 R, 177 T; 238/143, 238/144, 145, 146, 147, 151, 220, 243, 262; 16/94 R, 94 D, 95 R, 95 W, 95 D, 95 DW, 96 R, 96 D, 96 L

[56] References Cited

UNITED STATES PATENTS

261,316	7/1882	Davies	104/110
1,049,396	1/1913	Rassmann	104/111
1,489,104	4/1924	Armington	105/150
1,876,659	9/1932	Francis	198/177 R

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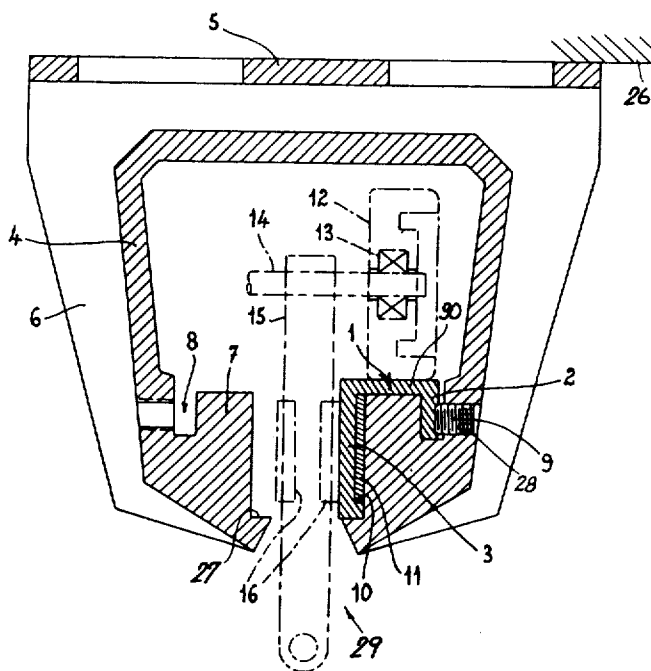
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[57] ABSTRACT

An overhead track assembly forming an aerial runway for transporting goods, such as meat, has a pair of downwardly open channels constitute support rails which are hung on yokelike hanger brackets from an overhead support. One leg of each rail is received in a groove in each bracket and a setscrew is tightened in the bracket to clamp this leg in place. The other leg of each rails define with the facing rail a gap down through which extends the hanger arm of a trolley whose rollers each ride on one of the rails. These other legs may be chamfered so as to permit lateral displacement of the hanger arm and this hanger arm has at least one roller engageable with the other legs to insure ease of riding. The rails are formed of a plurality of in-line rail sections whose ends are secured together by connecting pieces between the legs. One of the legs is formed with an inwardly directed ridge and the connecting piece is formed to snugly engage in the space between the two legs of the rail and be clamped in place with a setscrew.

8 Claims, 6 Drawing Figures



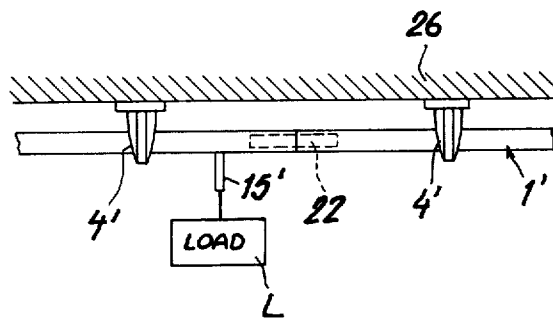
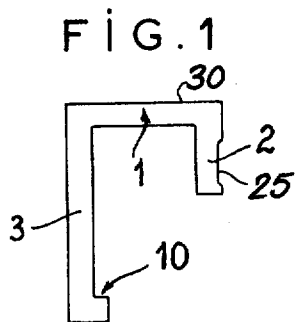
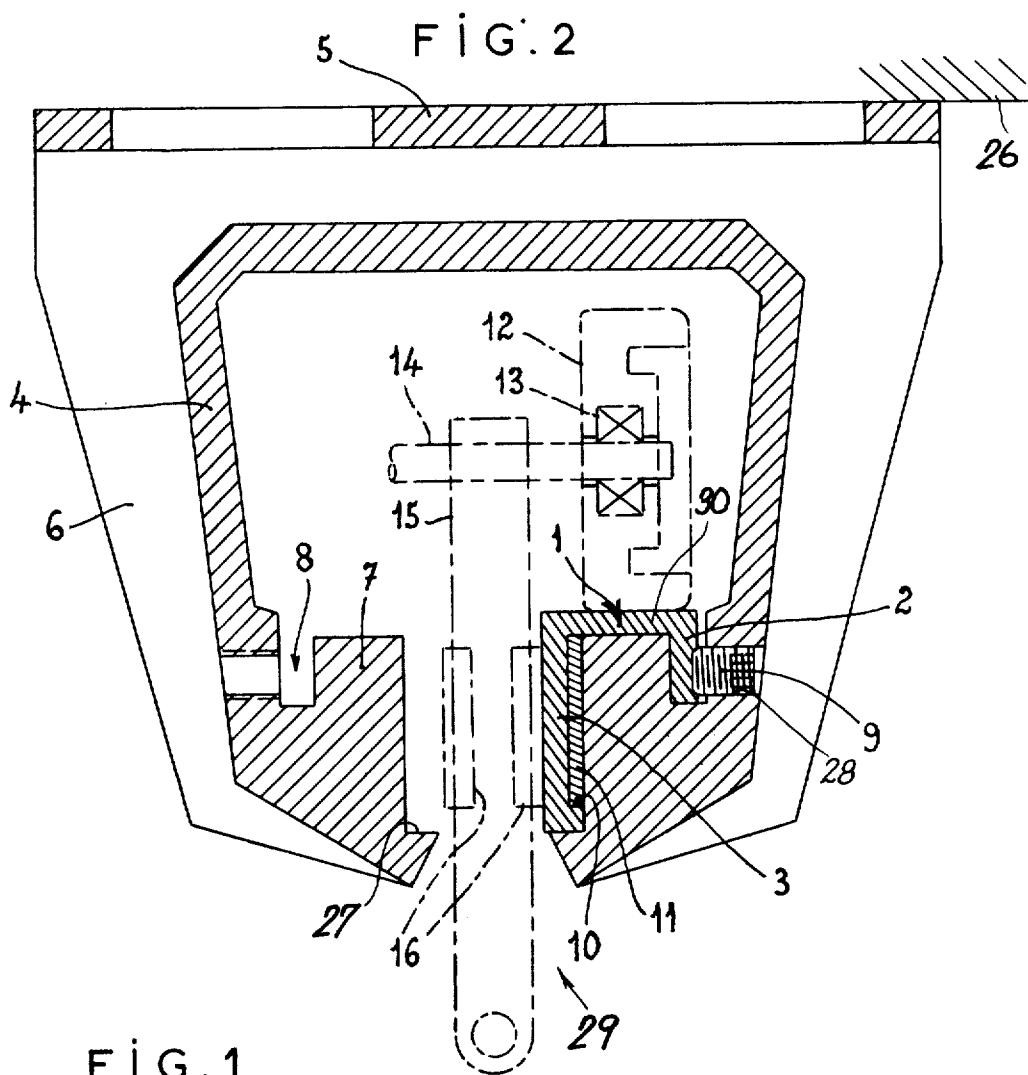


FIG. 6

FIG. 3

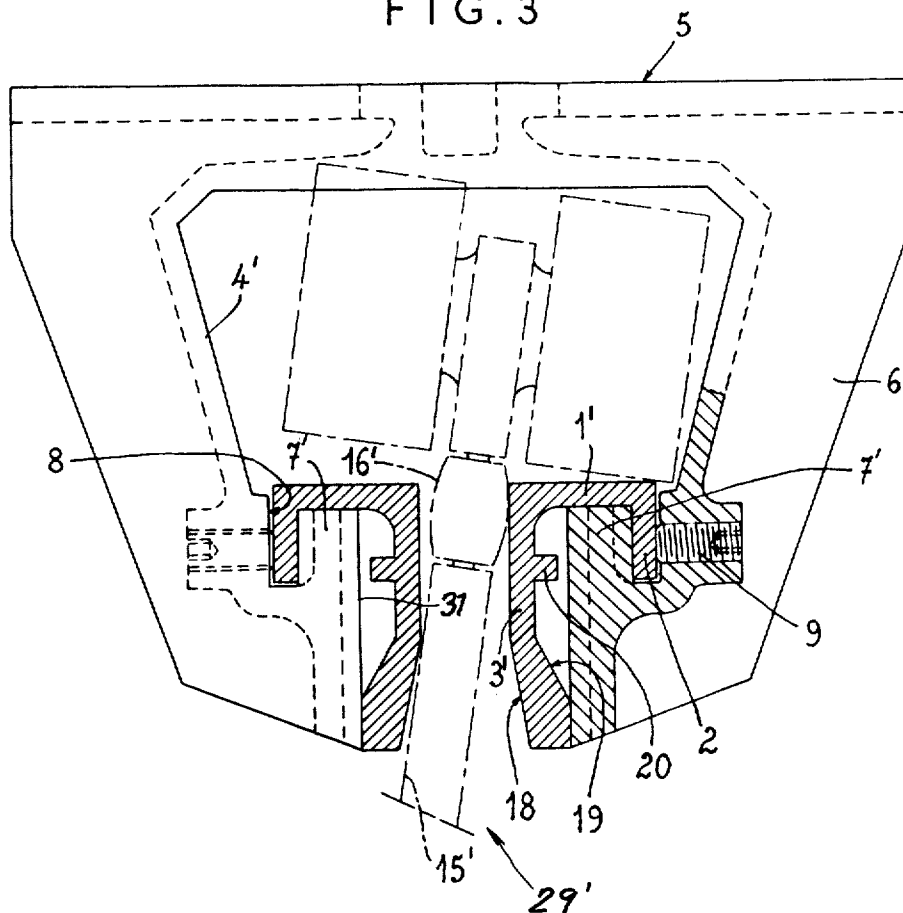


FIG. 4

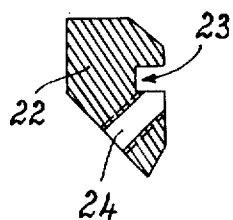
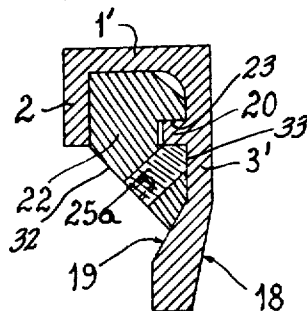


FIG. 5



OVERHEAD TRACK ASSEMBLY

FIELD OF THE INVENTION

The present invention relates to an overhead track system. More particularly this invention concerns an overhead track and trolley suitable for the transport of goods, such as meat in packing houses.

BACKGROUND OF THE INVENTION

The standard overhead track systems of the bar, Coburn, or double I-beam types have a generally horizontal track formed of a plurality of longitudinally joined rails which are supported at regular intervals with hangers secured overhead. Trolleys having wheels or rollers riding on support surfaces of the track serve to suspend loads which then can be pushed along the track. Such a system is practical in that it allows the transport of heavy and otherwise unwieldy objects readily, yet takes up no floor space.

In the bar type the rail is bolted to hangers which lie along one side of the bar, permitting the trolley to pass along the other side. The Coburn system has rolled-steel track forming a passage opening through a central slit in its bottom wall so that the rollers roll inside the rail while the load is carried on an arm projecting through the slit. The double I-beam system uses two I-beams to form the track, with the trolley riding between them.

A principal disadvantage of these systems is that the hanger brackets must be affixed at predetermined intervals from each other where the rails are drilled to receive connecting bolts, or the rails must be redrilled to change the spacing. In practice it may be necessary to space the brackets apart by a distance smaller than the desired spacing or to position the brackets at unsuitable locations. This does not permit optimum spacing and positioning of the brackets.

In addition such systems are frequently complicated and expensive. Should one rail section become damaged, it is often a very arduous task to replace it alone, and joining these rails together is frequently complicated, especially since the sections are usually pre-drilled at their ends so that when a section is cut shorter it must be redrilled to join its cut end to another section.

OBJECTS OF THE INVENTION

It is an object of the present invention to provide an improved overhead track system.

Another object is the provision of such a system, especially suitable for the transport of foods, which is simple in design and easy to assemble.

A further object is to provide a system wherein the rail is protected against lateral deflection of the trolley.

SUMMARY OF THE INVENTION

These objects are attained according to the present invention in an arrangement wherein the rail has an upper horizontal support surface for the trolley and is formed with a projecting flange which extends the full length of the rail. The brackets are formed with recesses which receive the flange, and means is provided at each bracket to clamp the flange in the respective recess. Thus the rail is simply gripped by the brackets which therefore can be placed anywhere along its length.

In accordance with a further feature of this invention the track is formed of parallel spaced rails or channels each formed as an inverted U with one leg constituting the clamping flange and another leg turned toward the other leg of the other rail. The clamping means is a simple screw threaded in the bracket in a hole opening into a slot which constitutes the recess receiving the holding flange.

According to yet another feature of this invention the other leg of each rail serves as a lateral support for the trolley which is provided with a roller pivoted about an upright axis. Thus lateral deflection of the trolley causes one of its side rollers to engage the inside rail leg, allowing this trolley to roll along unimpeded.

According to yet another feature of the present invention the inner legs of the rails are formed at their lower edges with a bevel or chamfer giving the space between these rails a downwardly diverging cross-sectional shape. These legs are thickened considerably at these bevels and rest with their inside faces against the bracket.

In accordance with a further feature of this invention the vertical leg of each rail is formed with a horizontal laterally-projecting flange which is adapted to engage in a similarly shaped slot of a connecting element adapted to fit snugly within the rail. This element is fitted into the ends of two rails to be joined, and screws threaded in transverse holes in the element are tightened to exert force against the rails and prevent slippage of the rails relative to the element and, therefore, to each other. There are no exposed surfaces, except those of the rail itself on which dust or dirt can collect.

BRIEF DESCRIPTION OF THE DRAWING

The above and other objects, features, and advantages of the invention will become more readily apparent from the following description, reference to the accompanying drawing in which:

FIG. 1 is an end view of a rail according to the present invention;

FIG. 2 is a vertical section through an assembly using the rail of FIG. 1;

FIG. 3 is a view similar to FIG. 2 showing another configuration according to this invention;

FIG. 4 is a cross section through a holding element or connecting piece usable with the rails of FIG. 3;

FIG. 5 is a cross section through the element of FIG. 4 mounted on one of the rails of FIG. 3; and

FIG. 6 is a side view of an assembly as shown in FIG. 3.

SPECIFIC DESCRIPTION

As shown in FIGS. 1 and 2 a pair of rails 1 having the general shape of a downwardly open channel having a pair of parallel legs 2 and 3, the former being shorter than the other and being formed on its outside face with a longitudinally extending groove 25 and the latter being longer and being formed on the lower end of its inner face with a longitudinally extending ledge 10. A web 30 joins these legs 2 and 3.

The hanger 4 comprises a generally U-shaped steel yoke having transverse reinforcing flanges 6 and a mounting flange 5 adapted to be bolted to the ceiling shown at 26. The hanger 4 is formed with a pair of inwardly directed support blocks 7 each formed with a respective longitudinally extending slot 8 and with adjacent its lower edge a ledge 27. Each rail 1 is sup-

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ported at each hanger 4 on one of its blocks 7 with the web 30 lying on the horizontal upper surface of this block 7, the lower edge of the leg 3 standing on the ledge 27, and the leg 2 received in the slot 8. The hanger 4 is formed with a threaded hole 28 extending between its outside and the slot 8 so that an Allen screw 9 can be screwed into this hole to bear on the leg 2 at the groove 25 and thereby tightly secure the rail 1 in place.

A trolley 29 has an upright support 15 from which a load L is hung and which carries at its upper end a transverse horizontal shaft 14 on which two rollers 12 are mounted via roller bearings 13. Each of the two rollers 12, only one of which is shown, rides on a respective rail 1 on the horizontal upper face of its bight or web 30. In addition the upright support arm 15 is provided on each side with a cylindrical roller 16 which rides against the leg 3 of the respective rail 1.

The rails 1 are joined together longitudinally by means of short bars 11 of rectangular cross section which are welded to the insides of these bars between the ridges 10 and the web 30, having a thickness equal to the height of the ledge 10 so as to be receivable within the bracket 4 if it happens to fall at that location.

The arrangement of FIGS. 3-6 is similar to that of FIGS. 1 and 2 with like reference numerals being used for functionally similar structure. In this arrangement each leg 3' is chamfered at 18 on its outer face on its lower edge and is correspondingly thickened at 19 on its inner face. The block 7' is formed with a flat face 31 having no ledge 27 and each leg 3' is formed on its inside face above the thickening 19 with a horizontal inwardly directed short flange 20. These rails 1' are secured to the holder 4' with screws 9 as in FIGS. 1 and 2.

The rails 1' are joined longitudinally by connecting pieces or bars 22 comprising short prefiled steel bars formed with a cross-sectional shape conforming closely to the inside shape of the bars 1', and having a groove 23 adapted to receive the flange 20. In this manner one such element 22 can be inserted half way in the ends of two rails 1' to be joined longitudinally. Each element 22 is formed with two longitudinally spaced transverse threaded bores 23a each opening perpendicular to the surface 32 left exposed at one end and at the other end at the groove 23 and at the face 33 turned against the inside face of the leg 3' above the thickening 19. The face 33 is cylindrically curved or shaped as a plane warped around an upright axis, as is the side of the groove 8 opposite the screw 9 so that a slight misalignment of the hanger yoke and the rail is possible, as is use of a curved rail.

The trolley 29' is provided with a single barrel roller 16' which rides against the one or the other rail 1'. FIG. 3 shows how when the trolley 29' is tipped radially this roller 16' remains in contact with one of the rails 1' and the stem 15' is allowed to deviate considerably from a vertical position by the chamfers 18.

I claim:

1. An overhead track assembly comprising:

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at least one elongated rail having an upper horizontal support surface and at least one projecting flange extending longitudinally the full length of said rail; at least one hanger having a recess receiving said flange; and

means for clamping said flange in said recess, said recess being an upwardly open groove and said hanger being formed with a threaded hole opening into said groove, said means including a screw threaded in said hole and having an end engageable with said flange, said rail being a channel having a first leg constituting said flange, a second leg parallel thereto, and a web interconnecting said legs and having an outer face constituting said support surface.

2. The assembly defined in claim 1, further comprising another such rail parallel to the first-mentioned rail and having its second leg turned toward and defining a space with said second leg of said first rail, said hanger having another such recess and hole receiving the flange of said other rail.

3. The assembly defined in claim 2 wherein said rails having confronting parallel flat faces on said second legs, each of said second legs being formed parallel to said web on the side turned away from the other second leg with a projecting ridge, said assembly further comprising a strip secured to each of said rails between said ridge and said web and to another longitudinally abutting in-line rail.

4. The assembly defined in claim 2 wherein each of said rails is chamfered away from the other rail at the lower edge of its second leg, whereby said space extends longitudinally and widens downwardly.

5. The assembly defined in claim 4 wherein each of said rails is formed at the side of its second leg turned away from the second leg of the other rail with a thickening in the region of the chamfer.

6. The assembly defined in claim 2, further comprising a trolley having a pair of rollers each riding on a respective one of said support surfaces, a support arm extending from said rollers down between said rails in said space, and at least one roll rotatable on said support arm about an upright axis and engageable with at least one of said second legs.

7. The assembly defined in claim 6 wherein said roll is generally barrel-shaped and is tapered toward its ends.

8. The assembly defined in claim 1 wherein said second leg is formed with a ridge extending longitudinally of said rail and projecting transversely of said first leg, said assembly further comprising a connecting piece shaped to fit between said legs and formed with a groove receiving said ridge and a throughgoing threaded hole, and at least one screw received in said hole in said connecting piece and engageable with said rail to secure said connecting piece thereto, whereby said connecting piece joins the longitudinal ends of a pair of in-line rails.

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