

July 28, 1931.

M. WILLIS

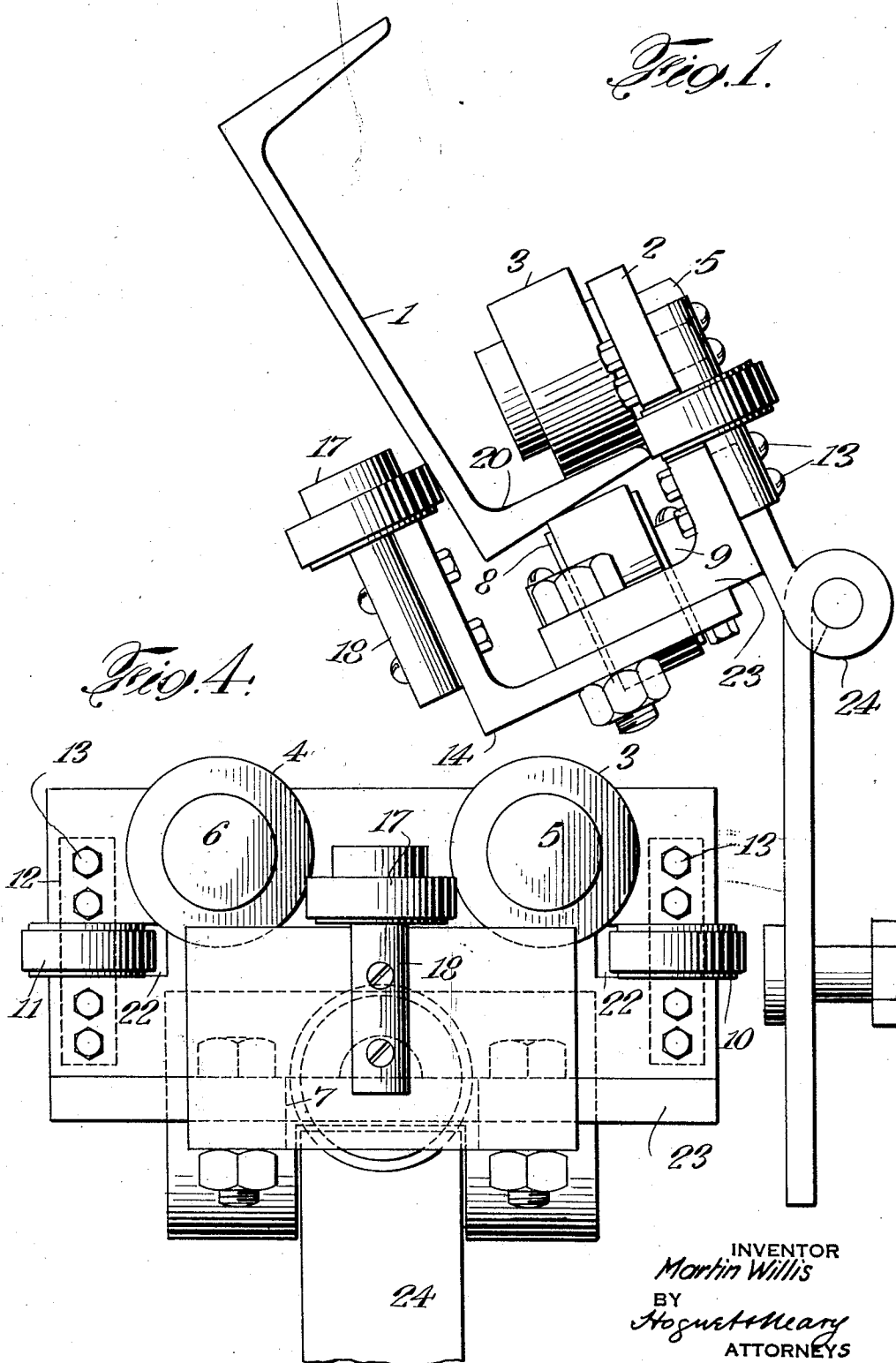
1,816,031

TROLLEY

Filed Nov. 19, 1929

3 Sheets-Sheet 1

Fig. 1.



INVENTOR
Martin Willis
BY
Hoguet & Heary
ATTORNEYS

July 28, 1931.

M. WILLIS

1,816,031

TROLLEY

Filed Nov. 19, 1929

3 Sheets-Sheet 2

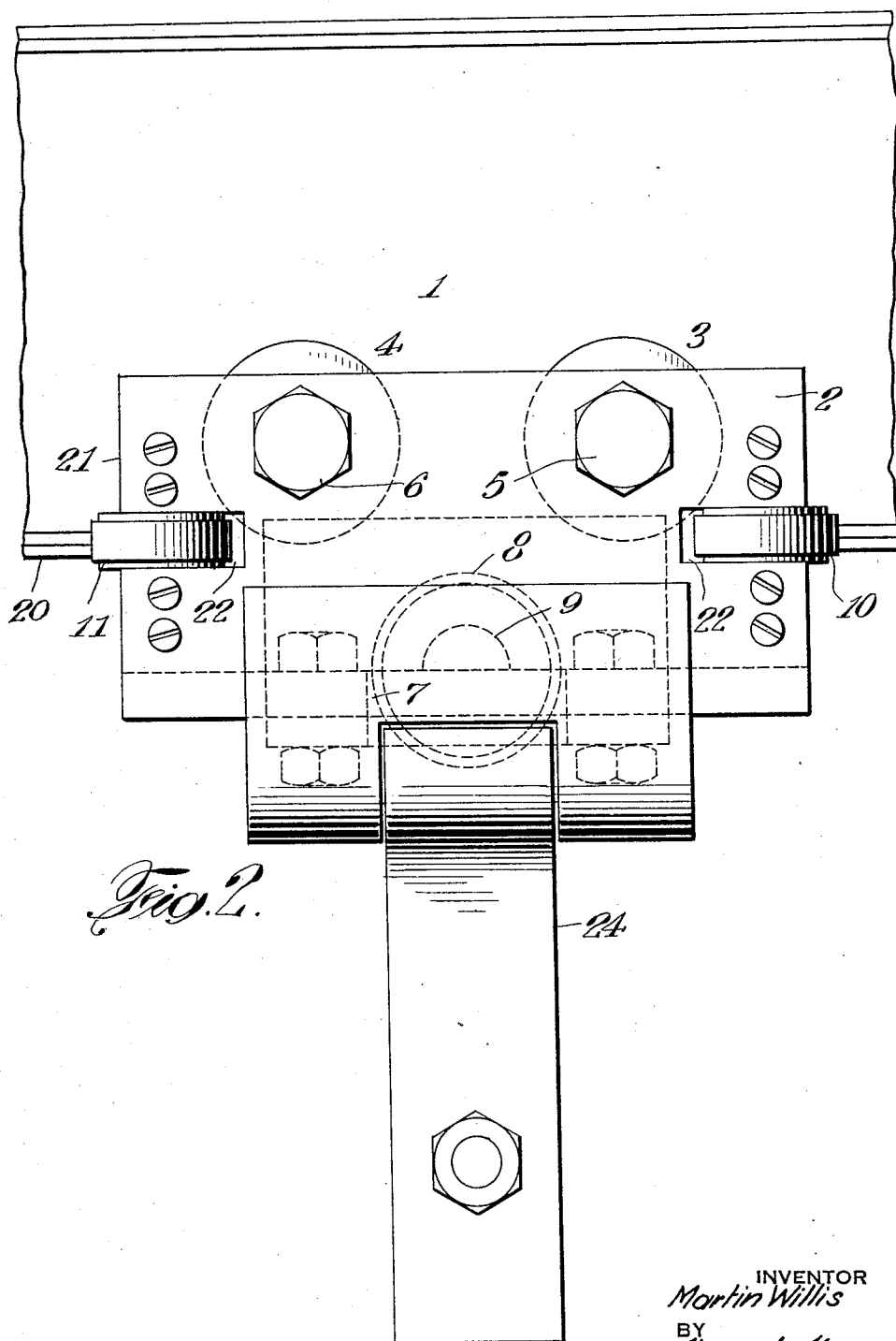


Fig. 2.

INVENTOR
Martin Willis
BY *August Healy*
ATTORNEYS

July 28, 1931.

M. WILLIS

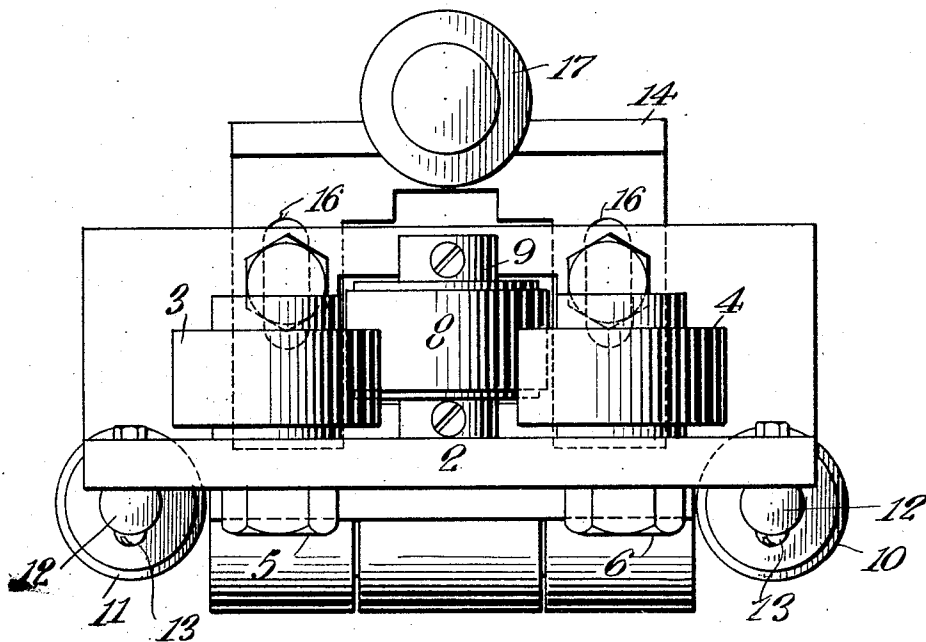
1,816,031

TROLLEY

Filed Nov. 19, 1929

3 Sheets-Sheet 3

Fig. 3.



INVENTOR
Martin Willis
BY
Hoguet & Meany
ATTORNEYS

UNITED STATES PATENT OFFICE

MARTIN WILLIS, OF NEW ORLEANS, LOUISIANA, ASSIGNOR TO R. J. DORN CO., INC., OF NEW ORLEANS, LOUISIANA, A CORPORATION OF LOUISIANA

TROLLEY

Application filed November 19, 1929. Serial No. 408,196.

This invention relates to trolleys of a type using a structural steel shape for a supporting rail and adapted to carry devices of various types suspended therefrom.

Heretofore, in the application of sheet roofing materials to channels or other standard shapes employed as purlins in some types of buildings it has been necessary to erect scaffolding in the interior thereof in order that such operation may be performed. The cost of painting the ceilings of such buildings is also materially increased by the necessity of using scaffolding.

It is an object of this invention to decrease the cost of such building and painting operations and I do this by using a trolley which may be readily mounted on and removed from purlins of this type once the trolley has been adjusted to the size of the purlins used. My trolley may be adjusted to purlins of various shapes and sizes and may be used therewith regardless of the angle at which they are disposed.

Primarily the invention consists of a frame having a suitable number of ball bearing or other suitable rolling means adapted to contact with the upper, lower and toe surfaces of a flange carried by a supporting rail which also has another flange or web member disposed at an angle to the first mentioned flange. Bolted, or otherwise suitably fastened to this frame member is a second frame member, also mounting rolling means which contacts with one surface of the other flange or web member. One of the frame members carries a hinge or similar element from which the device for the support of the worker, tools, etc., is suspended. The relationship of the trolley and the supporting rail is such that gravity will retain the trolley on its rail regardless of the position of the latter, and is also such that the trolley may be easily removed from the rail by lifting and rotating it in a manner to be hereafter described.

A better understanding of the invention may be had by reading the following description together with the accompanying drawings, of which

Fig. 1 is an end view of the trolley showing it mounted upon a purlin, in service,

Fig. 2 is a right hand elevation of the trolley in service,

Fig. 3 is a plan view of the trolley,

Fig. 4 is an elevation, looking from the left of Fig. 1.

Referring to the drawings, a rail 1 is shown which may be a channel, angle or other suitable structural shape customarily used for purlin elements in building construction. Although in the description and in the claims appended hereto, I have used the terms "flange" and "web" in some instances to distinguish between parts of the supporting rail, it is to be understood that any structural shape, as for instance an angle which has two flanges instead of a flange and web may be equally well employed to support my trolley. The trolley is adapted to ride upon the flange 20 of a rail 1 and comprises a frame member 2 which is preferably an angle member. Extending through one of the flanges of the frame member are the studs 5 and 6 upon which are mounted rolling means which are preferably ball bearing elements 3 and 4 adapted to bear on the upper surface of the flange 20. Slots 22 are cut in the ends of the flange 21 to accommodate rolling means 10 and 11 also preferably of the ball bearing type which bear against the toe of the flange 20. These elements are suitably mounted upon shafts 12 fastened to the flange 21 by bolts 13. Between the bearings 3 and 4 but in the lower flange 23 of the frame 2 is a slot 7 which permits mounting the bearing 8 on a shaft 9 carried by the flange 23. In service the bearing 8 is positioned underneath the flange 20 and in some positions of the rail will bear against the lower surface thereof. The other member of the frame 14 is also preferably an angle member in one leg of which are cut the slots 16 to permit of an adjustable fastening with the first frame member. The leg 14 mounts the rolling means 17 at this upper edge upon the stud 18 suitably fastened thereto.

A hinge 24 is securely fastened to the frame 2 and is adapted to hang vertically regardless of the angular position of the trolley for the support of a ladder or platform or whatever is desired to be suspended there-

from. The hinge is located as close to the frame 2 as possible to reduce the leverage augmented by the weight of the frame, the workmen, the necessary tools and equipment which are suspended from the hinge. When adjusted for a rail or purlin of a particular size the trolley may be mounted in position for service or removed, without making further adjustments, by inserting the toe of the supporting rail in the clearance provided between the roller bearing 17 and the bearings 3 and 4 and rotating it into position.

The action of a load on the trolley is such as to hold it more securely to the purlin but at the same time due to the frictionless character of the ball bearings preferably employed the workman can easily propel himself along the purlin.

Although I have described my invention with reference to a particular use for which it is very suitably adapted, it may nevertheless be modified for other uses within the spirit of the invention and it is to be limited therefore only by the state of the prior art and the scope of the appended claims.

Claims:

1. The combination with an overhead rail having a web obliquely positioned and a flange along the lower edge of the web extending at an angle thereto in an upward direction of a trolley having rolling means bearing on the upper surface of said flange, a frame mounting for said rolling means, said frame having an element extending under said flange and mounting other rolling means having its bearing surface in contact with said web portion.

2. The combination with a rail member having flange and web portions, of a trolley which in service has rolling means bearing on the upper surface of said flange, a frame mounting for said rolling means, said frame having an element extending under said flange and mounting another rolling element having its bearing surface in contact with said web portion, said rolling elements having sufficient clearance therebetween for mounting said trolley in position on said rail without adjustment of the rolling elements.

3. The combination with a rail member having a flange and web portion of a trolley which in service has rolling means bearing on the upper surface of said flange, a frame mounting for said rolling means, said frame having an element extending under said flange and mounting other rolling means in a plane parallel to said first rolling means and other rolling means in a plane perpendicular to the plane of said first rolling means, said several rolling means have sufficient clearance to permit the mounting of said trolley on its rail and its removal therefrom without adjustment of the relative positions of said several rolling means.

4. A trolley for use with a rail having portions at an angle to each other, said trolley comprising two frame elements adjustably secured together, one of said frame elements mounting a plurality of rollers, at least one of which is adapted to bear on a surface of one of the portions of the rail, another roller adapted to bear on another surface of the same portion and a third roller element mounted on said other frame member adapted to rest in service on the other of said portions.

5. A trolley for use with a railway having differently deposited portions, said trolley comprising two frame elements adjustably secured together, one of said frame elements mounting a plurality of rollers, at least one of which is adapted to bear on one surface of one of the portions of the rail, another roller adapted to bear on another surface of the same portion, and a third roller element mounted on said other frame member adapted to rest in service on the other of said portions; said trolley providing sufficient clearance between the respective roller to permit mounting and removal of said trolley from its rail without adjustment.

6. A supporting trolley for use with a rail having portions disposed in different planes, said trolley comprising two frame elements adjustably secured together, one of said elements mounting a plurality of rolling means, at least one of said rolling means being adapted to bear on a surface of one of said portions, other of said rolling means adapted to bear on the toe of said last named portion, still other of said rolling means being adapted to bear on another surface of said last named portion and rolling means mounted on said other frame member adapted to bear on the other portion of said rail.

7. A trolley in accordance with claim 6 in which sufficient clearance is provided between the respective rolling means to permit the mounting of said trolley and the removal thereof from its rail without adjustment.

8. In combination, an overhead rail having a downwardly directed web and an upwardly sloping flange extending from one side thereof, a trolley having a roller riding on the upper surface of said flange and a member on said trolley riding on the opposite side of the web from the flange.

9. In combination with a rail comprising a web and a flange extending from one side thereof, the other side being free of projections, a trolley comprising a portion lying beneath the rail and arms extending at angles to the trolley on the same side of the said portion, and means on each of said arms having a tread respectively on the upper surface of the flange and on the side of the web opposite the flange.

10. In combination with a rail comprising a web and a flange extending from one side

thereof, the other side being free of projections, a frame comprising a portion lying beneath the rail and arms extending at angles to the frame on the same side of the said portion, and means on each of said arms having a tread respectively on the upper surface of the flange and on the side of the web opposite said flange, said means being spaced apart a distance greater than the thickness of the web and less than the width of the flange.

11. In combination with a rail comprising a web and flange extending laterally therefrom, said flange being inclined obliquely upward from the web, a trolley having rollers thereon respectively bearing on the upper and lower surfaces of said flange.

12. In combination with a rail comprising a web and a flange extending laterally therefrom, said flange being inclined obliquely upward from the web, a trolley having rollers thereon respectively bearing on the upper and lower surfaces of said flange and a roller bearing on the edge of the flange.

In testimony whereof, I have signed my name to this specification this 12th day of November 1929.

MARTIN WILLIS.