

Sept. 14, 1948.

L. C. OERTLE

2,449,501

GANTRY

Filed Nov. 10, 1945

2 Sheets-Sheet 1

Fig. 1.

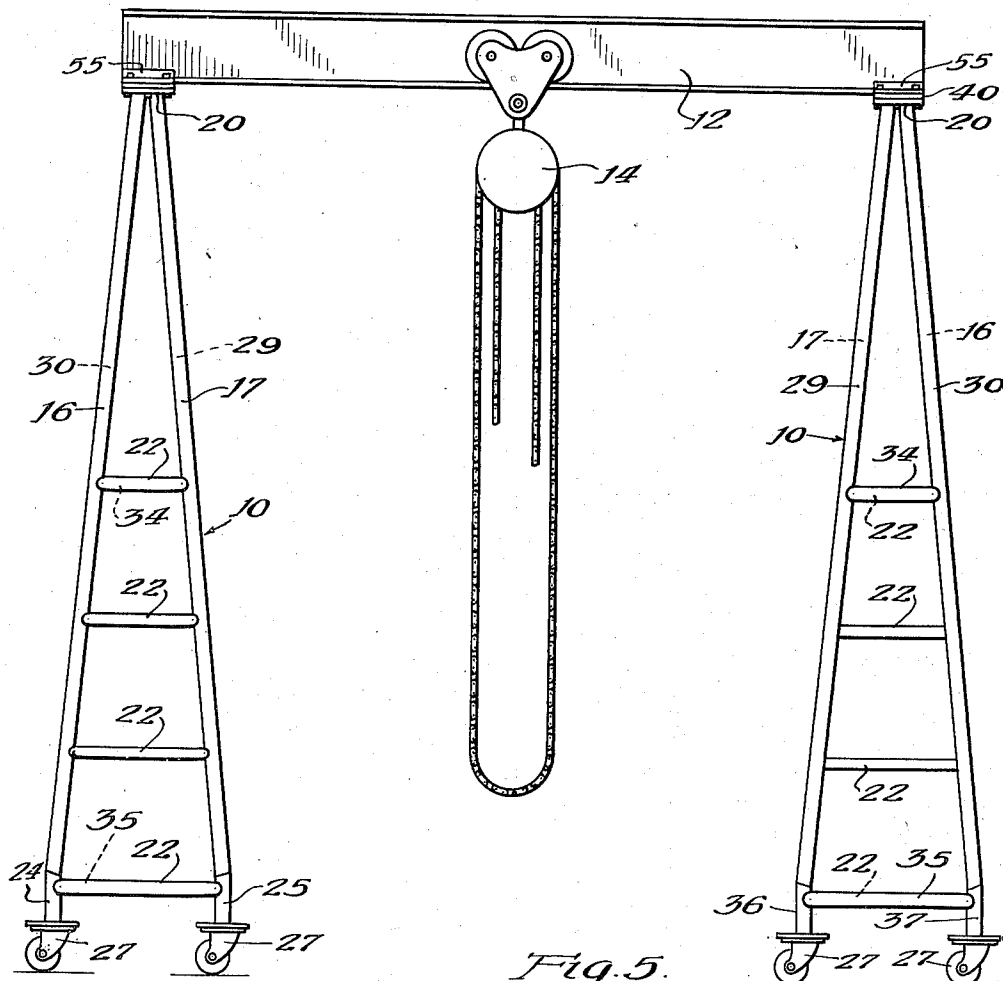


Fig. 5.

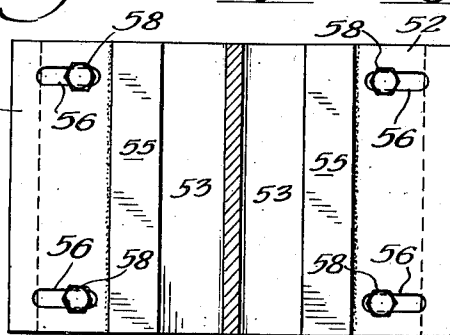
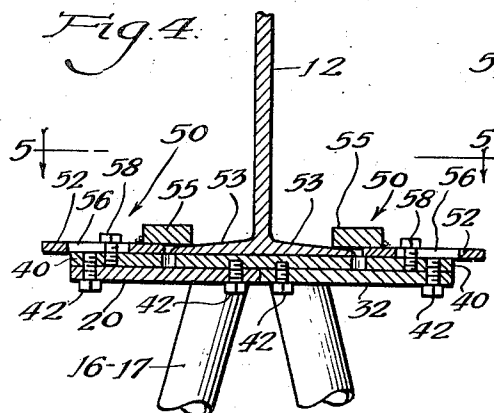


Fig. 4.



Inventor:
Lawrence C. Oertle
By: Eugene H. Simpson.
Attorney:

Sept. 14, 1948.

L. C. OERTLE

2,449,501

GANTRY

Filed Nov. 10, 1945

2 Sheets-Sheet 2

Fig. 2.

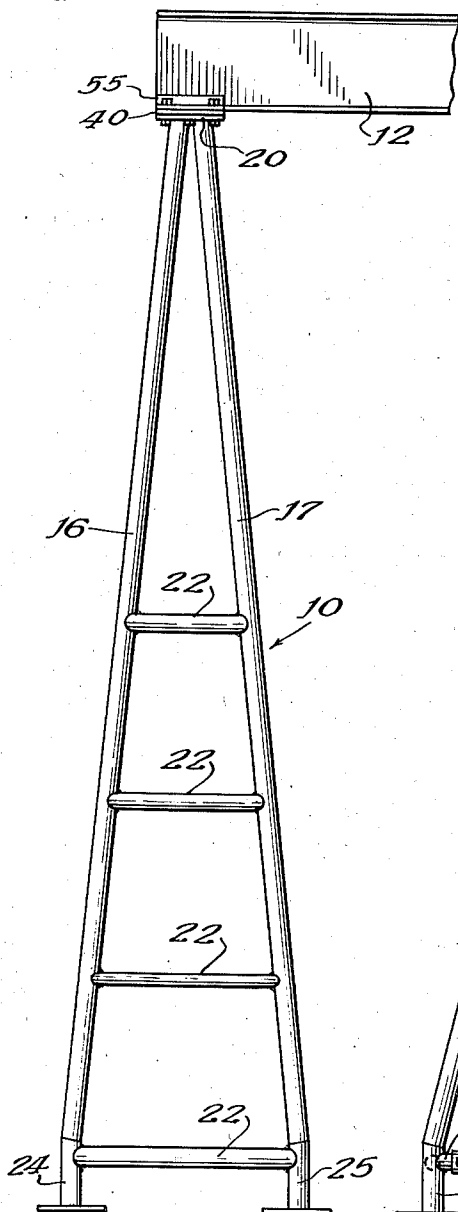
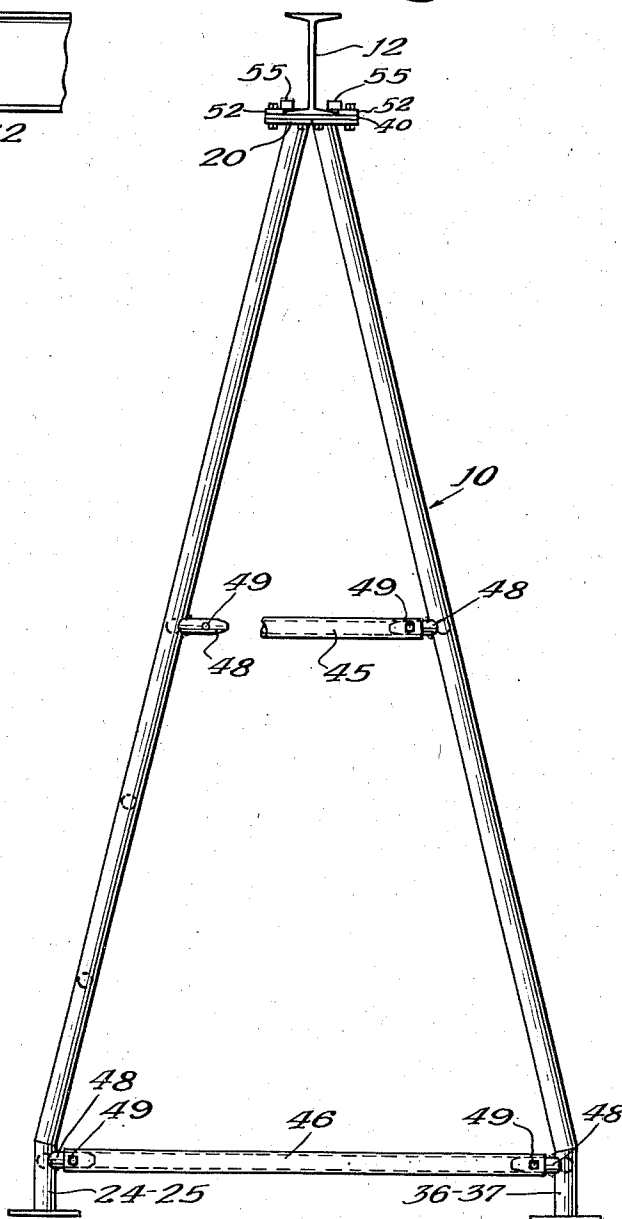


Fig. 3.



Inventor:
Lawrence C. Oertle
By: *Eugene H. Simpson*

Attorney:

UNITED STATES PATENT OFFICE

2,449,501

GANTRY

Lawrence C. Oertle, Milwaukee, Wis., assignor to
La Ray Engineering and Equipment Co., Inc.,
Milwaukee, Wis., a corporation of Wisconsin

Application November 10, 1945, Serial No. 627,885

3 Claims. (Cl. 212-13)

1

This invention relates to a gantry and more particularly to a demountable and portable gantry.

One object of the present invention is to provide a gantry which can be stored in a minimum amount of space.

Another object is to provide a gantry which can be transported readily.

A further object is to provide a gantry in which the size of the horizontal support can be varied.

A further object is to provide a gantry which will be strong and rigid.

A further object is to provide a gantry which can be manufactured economically.

A still further object is to provide a gantry which will be economical to ship.

Other objects will become apparent upon considering the following specification, which when taken in conjunction with the accompanying drawings, illustrate a preferred form of the invention.

In the drawings:

Fig. 1 is a side view showing a gantry including two towers embodying the invention, the figure showing the front of one tower and the rear of the other;

Fig. 2 is a slightly enlarged view of the side of the gantry support shown in Fig. 1;

Fig. 3 is an end view of one of the gantry supports;

Fig. 4 is an enlarged end view of the top of the gantry; and

Fig. 5 is a cross-section taken on the line 5-5 of Fig. 4.

Referring to the drawings, the gantry comprises, in general, a pair of vertical towers 10-10 connected at their upper ends by a horizontal beam 12. The beam 12 may carry a hoist 14 of conventional design.

Each of the towers comprises two frames, one of which is formed from a pair of posts 16-17 spaced from each other at the lower ends, and tapered toward each other at their upper ends. The upper ends of the posts 16 and 17 are connected together by a horizontal base plate 20. Rungs 22 join the posts 16 and 17 to maintain them properly spaced and to form a ladder.

The lower ends of the posts 16 and 17 are provided with parallel vertical extensions 24-25, which receive the pivot shanks of casters 27.

The second frame is formed of two posts 29-30 (Fig. 1) spaced from each other at the bottom and tapered toward the upper ends of the posts. The posts 29 and 30 are joined at their upper ends by a horizontal base plate 32,

2

which abuts the base plate 20 of the first frame. The central and lower portions of the posts 29 and 30 are connected by rungs 34 and 35 respectively, which hold the posts in proper spaced relationship.

The lower ends of the posts 29 and 30 are provided with vertical tubular extensions 36 and 37, respectively, which receive the pivot shanks of casters 27.

The two frames are set at the proper angle to each other and connected together at their upper ends by a connector plate 40 which is fastened to the base plates 20 and 32 by bolts 42.

The central and lower portions of the frames are joined to each other by tie rods 45-46 respectively. The tie rods 45 and 46 are tubular and are received over aligned horizontal tubular projections 48 formed on the posts 16, 17, 29 and 30.

Bolts 49 pass through both the tie rods 45 and 46 and the projections 48 to form the tower into a rigid structure.

The beam 12 is supported between the towers 10, and is retained on each of the connector plates 40 by a pair of clamps 50-50.

Each of the clamps comprises a plate 52 having a thickness equal to the outer portion of the flange 53 of the I-beam 12. A second, narrower plate 55 is welded on the inner edge of the plate 52 and projects over the edge of the flange 53 to hold the beam in place. Each clamp has a pair of slots 56-56, extending transversely of the beam 12, with screws 58 passing through the slots 56 and engaging in threaded holes in the plate 40.

The clamps 50 are thus adjustable for any size I-beam.

The hoist 14 is mounted on the beam 12 to raise loads by the gantry.

Operation

In operation, the towers 10 are assembled with the tie rods 45 and 46 holding the two halves of the towers assembled.

With the towers in vertical position workers may then climb the ladder 22 and raise the beam 12 into place. The beam may be clamped on the towers by means of the clamps 50 with the hoist 14 in place. The gantry is then ready for use and may be moved to working position on the casters 27.

It is to be understood that the form of the invention herein shown and described is to be taken merely as a preferred example thereof, and that various changes in size, shape and arrangement

of parts may be made without departing from the spirit of the invention or the scope of the subjoined claims.

That which is claimed as new and is desired to be secured by Letters Patent is:

1. A gantry comprising a pair of towers, and a beam supported on said towers, each tower comprising a pair of integral frames, one of said frames comprising a pair of diverging legs, and a plurality of spaced rungs integrally connected at their opposite ends to said diverging legs to form a ladder, a projection on each of said frames, and a tie rod removably engageable with said projections to form the tower into a unitary structure.

2. A gantry tower of the character described comprising a first end frame, a second end frame joined to said first end frame adjacent the top thereof and diverging downwardly therefrom, said first end frame comprising, a pair of diverging legs, a plurality of spaced rungs integrally connected at their opposite ends to the two diverging legs to form a ladder and a base plate integrally joining the legs at the upper ends thereof adjacent their intersection, said second end frame comprising a pair of diverging legs, a brace integrally joined between the diverging ends of the last named legs to retain the ends properly spaced,

and a base plate integrally joining the legs at the upper ends thereof adjacent their intersection, a connector plate joining the base plates to secure the upper ends of the frames together with the legs closely adjacent, and means to secure the lower end of the frames in spaced relationship.

3. A gantry tower as defined in claim 2 in which the last named means comprises a plurality of tie rods engageable at their opposite ends with the two frames, and means to releasably secure the tie rods between the frames.

LAWRENCE C. OERTLE.

REFERENCES CITED

15 The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
20 797,362	Landsman	Aug. 15, 1905
880,525	Hazzard	Mar. 3, 1908
1,273,143	Bryan	July 23, 1918
2,272,957	Walp	Feb. 10, 1942
2,305,563	Uecker et al.	Dec. 15, 1942
25 2,343,014	Langan	Feb. 29, 1944
2,347,745	McKinney	May 2, 1944