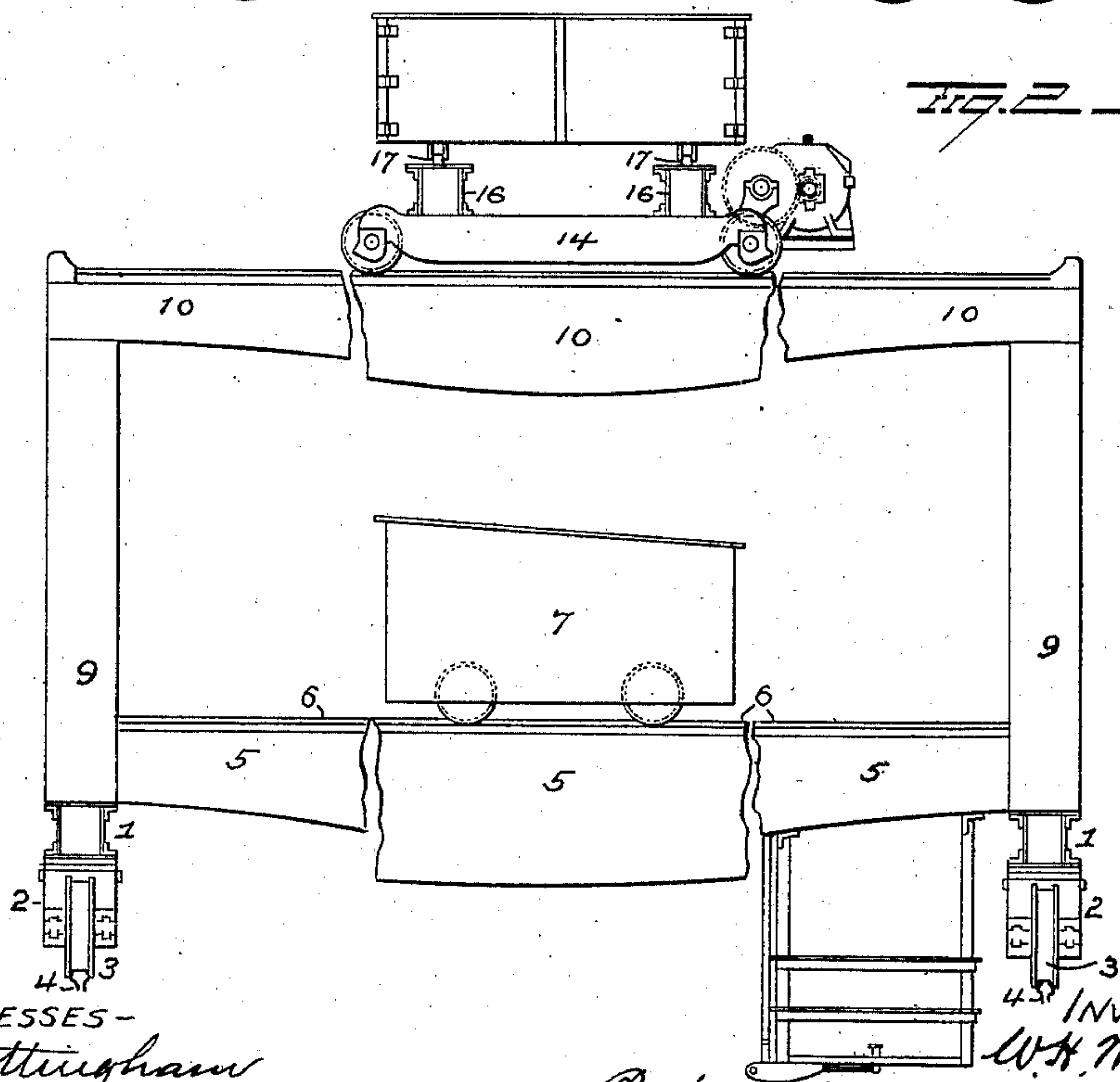
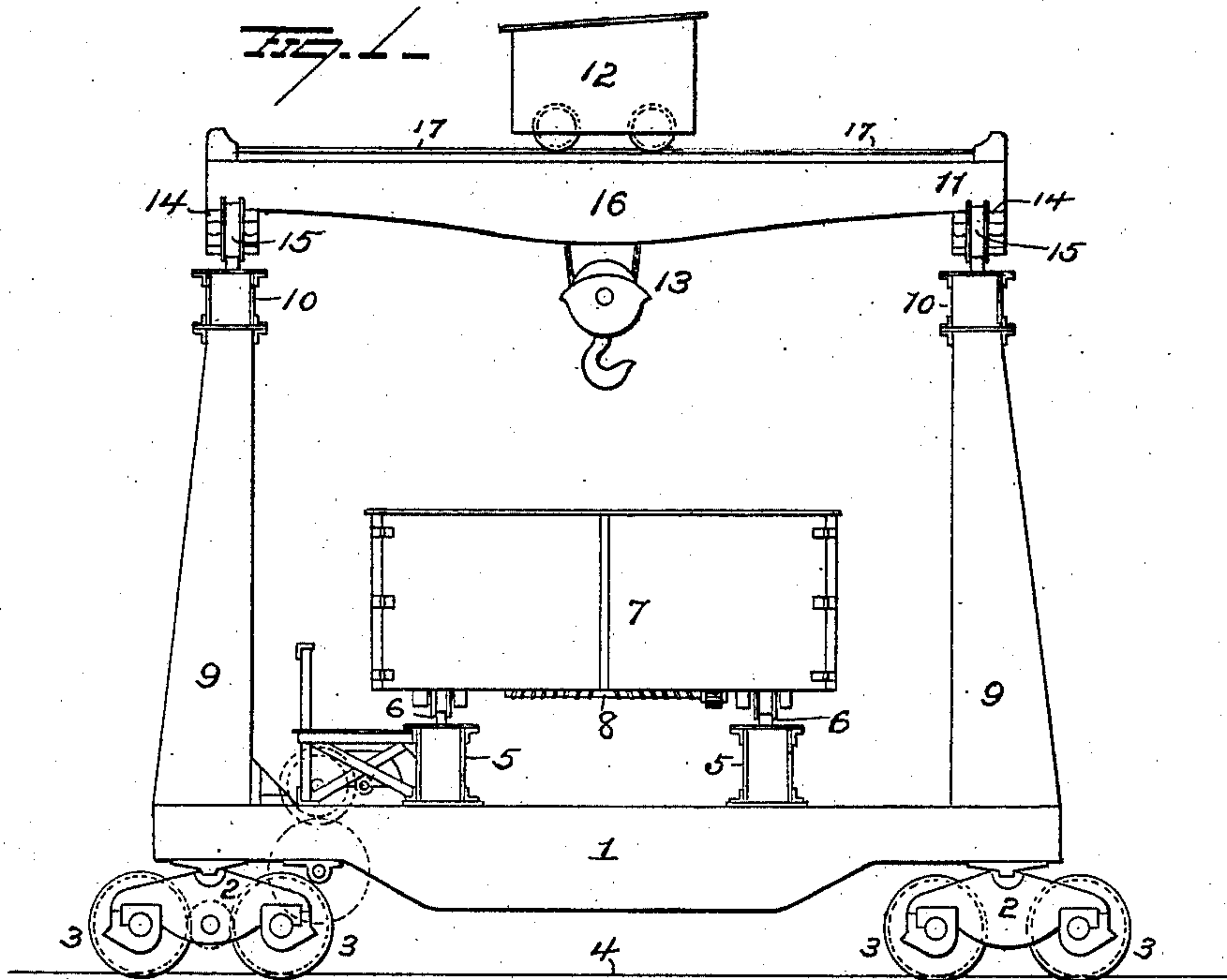


No. 850,439.

PATENTED APR. 16, 1907.

W. H. MORGAN.  
OVERHEAD TRAVELING CRANE.  
APPLICATION FILED APR. 14, 1906.

4 SHEETS—SHEET 1.



WITNESSES—  
E. Nottingham  
G. F. Downing

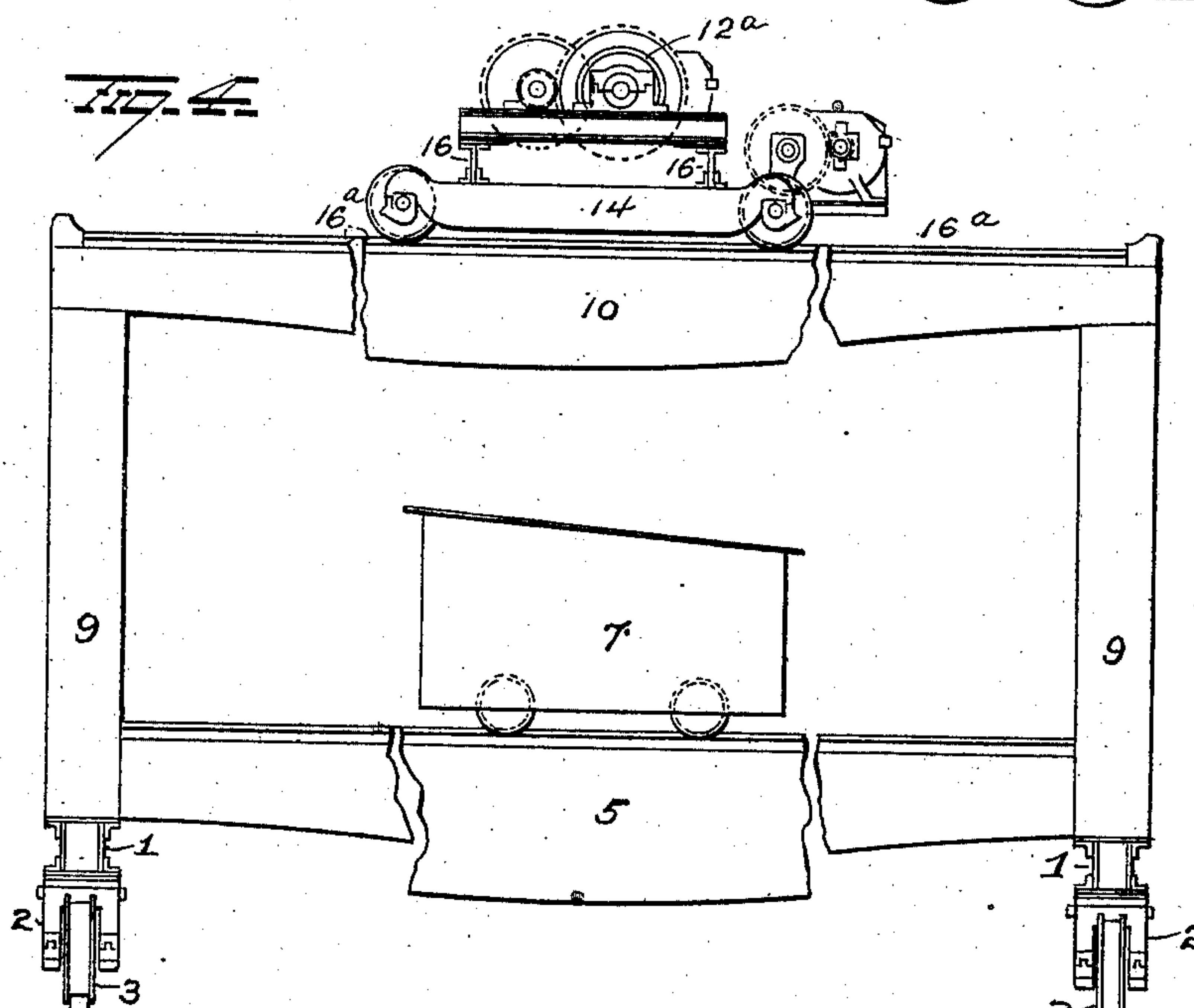
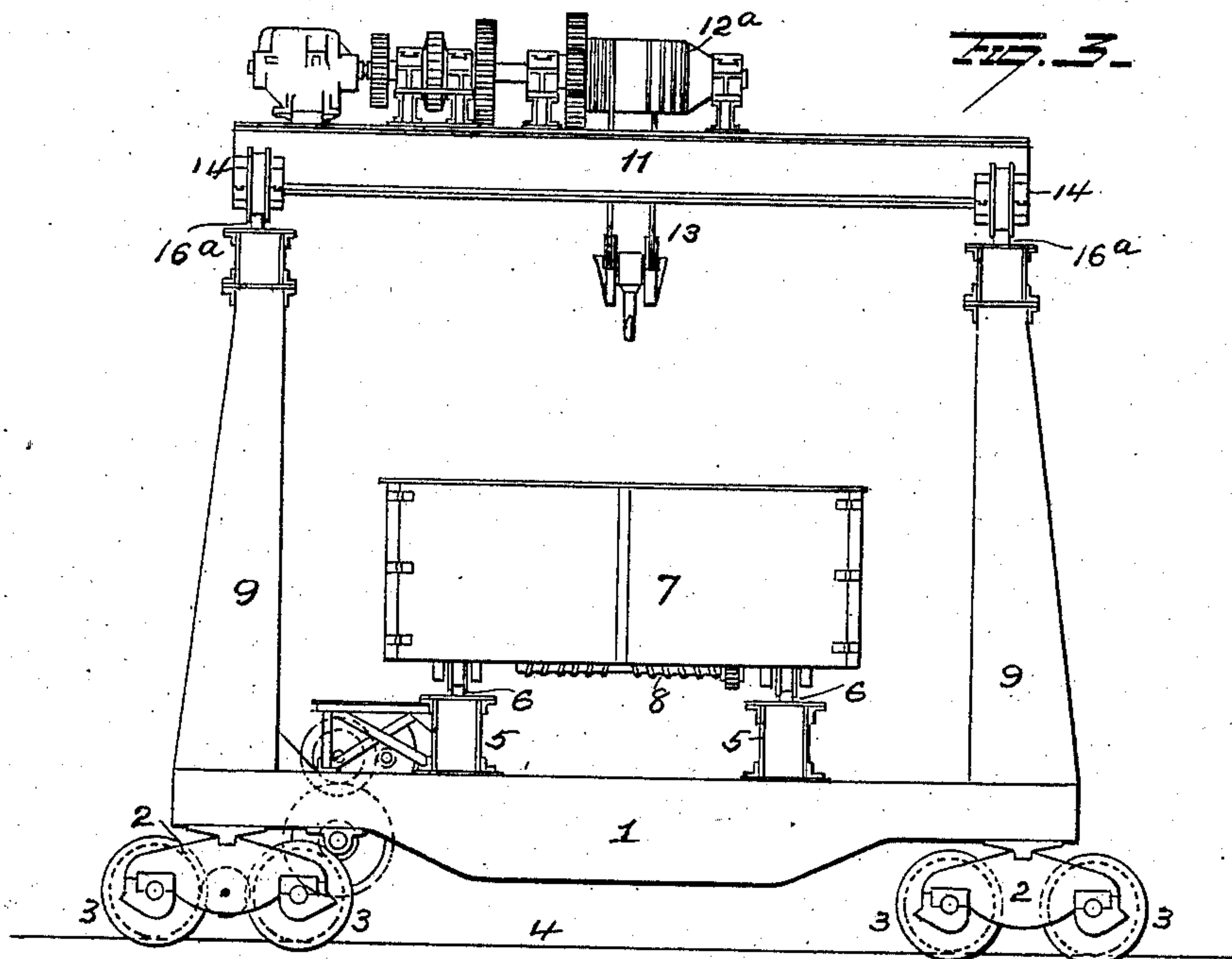
INVENTOR  
W. H. Morgan  
By H. A. Seymour Attorney

No. 850,439.

PATENTED APR. 16, 1907.

W. H. MORGAN.  
OVERHEAD TRAVELING CRANE.  
APPLICATION FILED APR. 14, 1906.

4 SHEETS—SHEET 2.



WITNESSES

*E. Nottingham*  
*G. J. Downing*

INVENTOR

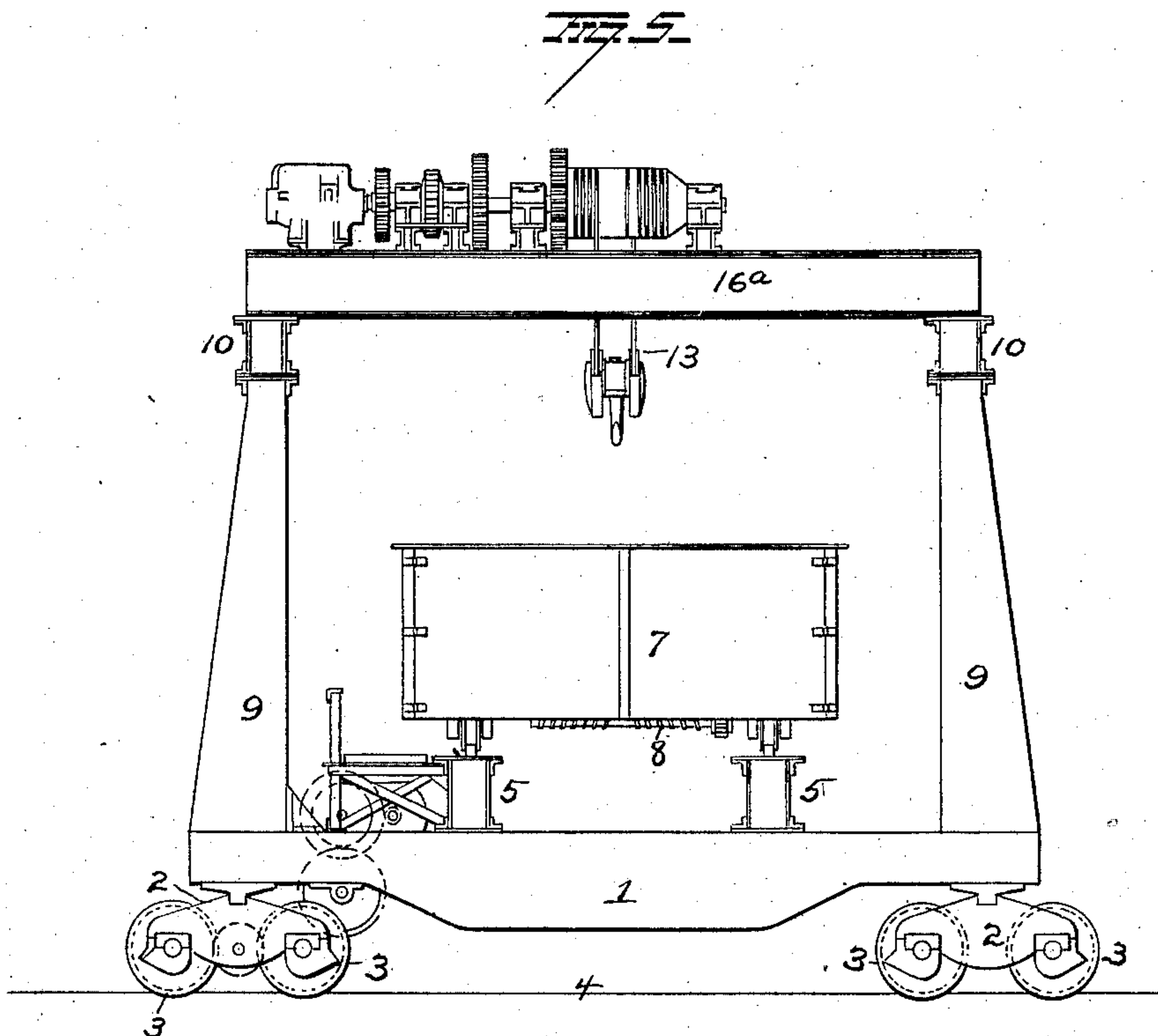
*W. H. Morgan*  
*Cy H. A. Seymour*  
Attorney

No. 850,439.

PATENTED APR. 16, 1907.

W. H. MORGAN.  
OVERHEAD TRAVELING CRANE.  
APPLICATION FILED APR. 14, 1906.

4 SHEETS—SHEET 3.



WITNESSES  
*E. Nottingham*  
*G. J. Downing*

INVENTOR  
*W. H. Morgan*  
*Cy. H. A. Seymour*  
Attorney

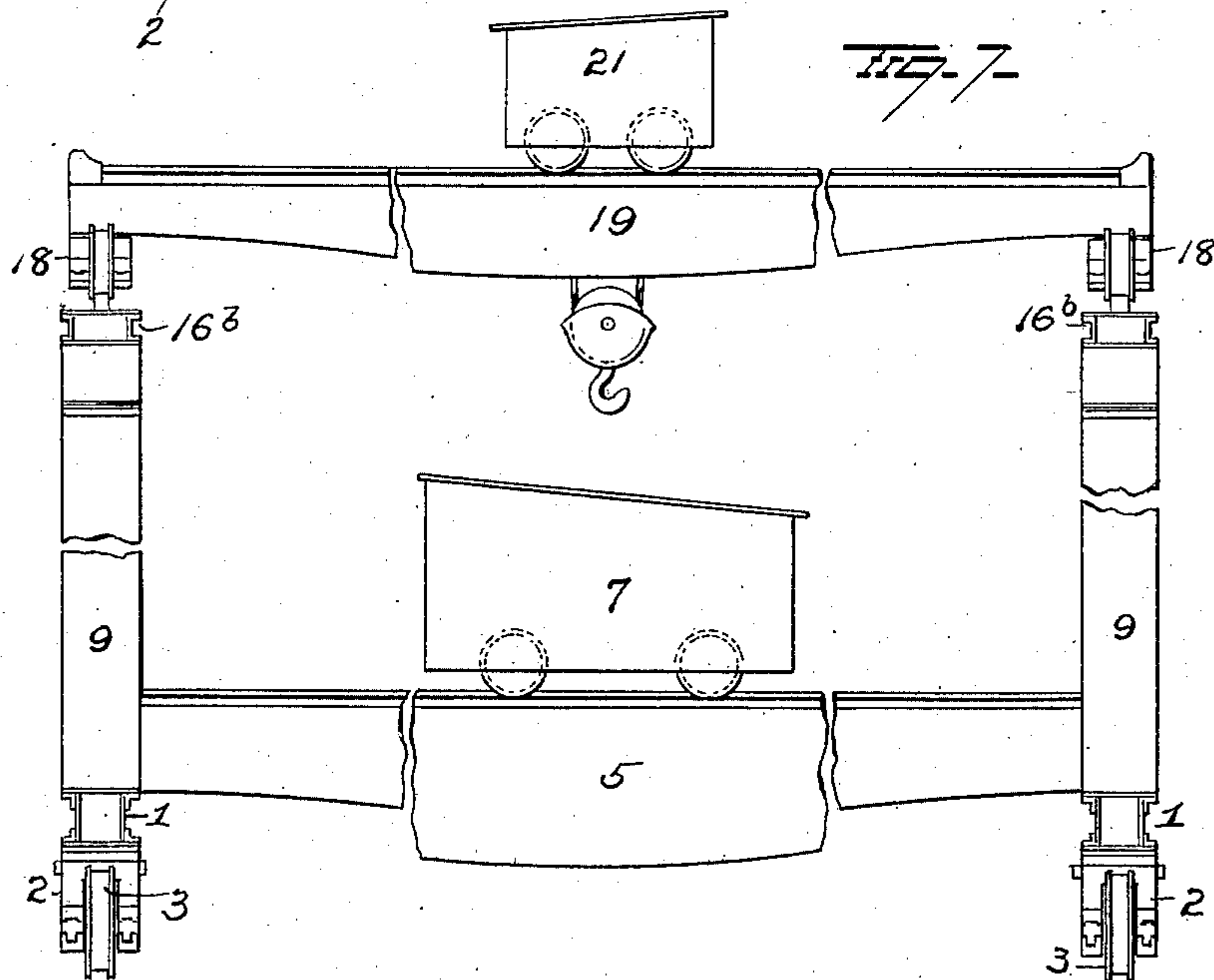
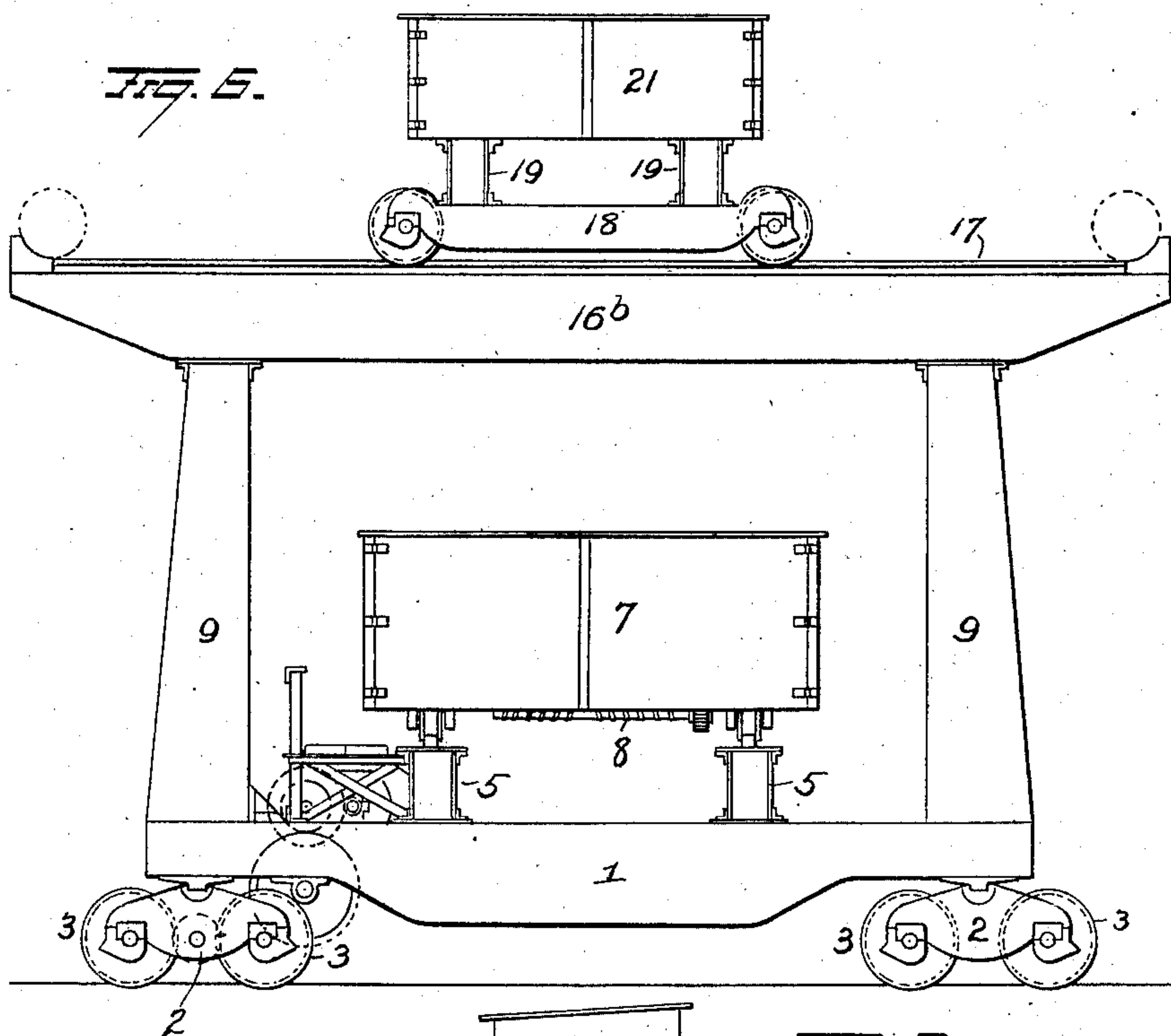
No. 850,439.

PATENTED APR. 16, 1907.

W. H. MORGAN.  
OVERHEAD TRAVELING CRANE.

APPLICATION FILED APR. 14, 1906.

4 SHEETS—SHEET 4.



WITNESSES  
*E. Nottingham*  
*G. J. Downing*

INVENTOR  
*W. H. Morgan*  
*Cy. H. Seymour*  
Attorney



# UNITED STATES PATENT OFFICE.

WILLIAM HENRY MORGAN, OF ALLIANCE, OHIO, ASSIGNOR TO THE MORGAN ENGINEERING COMPANY, OF ALLIANCE, OHIO.

## OVERHEAD TRAVELING CRANE.

No. 850,439.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed April 14, 1906. Serial No. 311,714.

*To all whom it may concern:*

Be it known that I, WILLIAM HENRY MORGAN, of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Overhead Traveling Cranes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same.

My invention relates to an improvement in overhead traveling cranes; and it consists, broadly, in a main crane carrying a trolley and an auxiliary crane carried by the main  
15 crane and located in a plane above the main trolley.

This invention further consists in a main traveling bridge carrying a traveling trolley, a supplemental traveling bridge carried on  
20 the main bridge, and an auxiliary trolley mounted to travel on the supplemental bridge.

My invention further consists in the parts and combinations of parts, as will be more  
25 fully explained, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in end elevation of my improved double crane. Fig. 2 is a view in side elevation, showing the double bridges with a trolley  
30 on each. Figs. 3 and 4 are similar views of modifications. Fig. 5 is a view in end elevation of another modified form, and Figs. 6 and 7 are views of another modification.

1 represents the end carriages of an overhead traveling crane, mounted on trucks 2, the wheels 3 of which travel on elevated tracks 4. These end carriages 1 are connected by the main-bridge girders 5, having  
40 rails 6, on which the main hoist - trolley 7 travels. This main trolley travels lengthwise the girders 5 and carries the main hoist drum or drums 8 and is also provided with a motor or motors and gearing for actuating  
45 the drum and with a motor and gearing for the cross-travel of the trolley.

The bridge or crane comprising the end carriages 1, girders 5, and trucks 2 is propelled on its trackway 4 by motor and gear-  
50 ing in the well known and ordinary manner.

Secured to the end carriages 1, near the

ends of the latter, are the upright posts 9, two to each carriage. The posts of each end carriage are preferably connected near their tops, and the four posts thus located and ar-  
55 ranged carry and support the top girders 10, which constitute the trackway for the auxiliary bridge 11. These girders 10 are parallel with the main girders 5, but are in vertical planes outside the main girders, and the  
60 auxiliary traveling bridge 11, mounted on these girders, is located at right angles to the main girders 5, thus permitting the trolley 12 on the auxiliary bridge 11 to move in a direction at right angles to the length of the  
65 main girders 5, so that the hoist-chain 13 for the auxiliary trolley may be lowered between the main girders 5 or to either side of said main girders.

The auxiliary bridge 11 consists of end  
70 carriages 14, having wheels 15, mounted on rails carried by the top girders 10, and bridge-girders 16, secured to said end carriages 14 and provided on their upper surfaces with rails 17, on which the trolley 12 travels.  
75

With this apparatus the main trolley 7 is designed for heavy work, while the auxiliary trolley 12 may be employed for tilting ladles carried by the main trolley, for lifting light  
80 objects, for assisting the main trolley, and also for handling parts of the main trolley or bridge in assembling or while repairing the main crane.

In Figs. 3 and 4 the construction is identical with that disclosed in Figs. 1 and 2, ex-  
85 cept that the traveling trolley on the upper auxiliary bridge is dispensed with. In the construction shown in the modification the hoisting mechanism 12<sup>a</sup> of the auxiliary bridge 11 is fixed to the latter, so that the  
90 hoist-chain 13 depends centrally between the girders of the main bridge.

Instead of constructing the upper crane 11 to travel as shown in Figs. 1 to 4, inclusive, the girders 16<sup>a</sup> thereof may be fixed to the  
95 top girders 10, as shown in Fig. 5. In this construction the hoisting mechanism may be on a trolley, as shown in Figs. 1 and 2, or it may be fixed, as shown in Figs. 3 and 4.

In the construction shown in Figs. 6 and 7  
100 the two upright posts 9 at the end of each end carriage are connected by girders 16<sup>b</sup>, the



latter being rigidly secured to the upper ends of the upright posts. These girders 16<sup>b</sup> project beyond the end carriages 1 of the main crane, as clearly shown in Fig. 6, and each  
 5 girder 16<sup>b</sup> is provided on its upper surface with a rail 17, the two rails 17 at the opposite end of the bridge constituting a trackway on which an upper or auxiliary bridge travels. This bridge travels on the girders  
 10 16<sup>b</sup> in the direction of travel of the main bridge and, like the main bridge, is composed of two end carriages 18 and two parallel girders 19, the latter being parallel with the girders of the main crane. The girders 19  
 15 are provided on their upper surfaces with the rails 20, on which the trolley 21 travels. This trolley has a hoisting-drum and a motor and gearing for actuating the latter and motor and gearing for propelling the trolley  
 20 on its trackway. With this construction the upper bridge can be moved laterally, so as to bring the hoist-chain of the auxiliary trolley 21 between or to either side of the main-bridge girders, and by moving the trolley 21  
 25 on its girders 19 the trolley can be moved to bring its hoist-chains at either end of the main trolley.

It is evident that many slight changes might be made in the relative arrangement  
 30 of parts shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction of parts shown and described; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an overhead traveling crane, the  
 40 combination with a main crane having hoist mechanism, of an auxiliary crane mounted to travel on the main crane and having hoist mechanism.

2. In an overhead traveling crane, the  
 45 combination with a main crane and a traveling trolley thereon of an auxiliary crane carried by the main crane and a traveling trolley on said auxiliary crane.

3. The combination with a main crane carrying a traveling trolley, of an auxiliary  
 50 crane carried by the main crane and in a plane above the main trolley.

4. The combination with a main crane carrying a traveling trolley, of an auxiliary  
 55 crane carried by the main crane, the girders of the auxiliary crane being above and at right angle to the girders of the main crane.

5. The combination with a main crane, and a traveling trolley thereon, of an auxiliary  
 60 traveling crane carried by the main crane and located above the main-crane girders, and hoisting mechanism on said auxiliary crane.

6. The combination with a main crane

and a traveling trolley thereon, of an auxiliary  
 65 traveling crane carried by the main crane and located in a plane above the girders of the latter, the girders of the auxiliary crane being at right angles to the main-crane girders.

7. The combination with a main crane, and a traveling trolley thereon, of an auxiliary  
 70 crane carried by the said main crane, and located in a plane above the girders of the latter, and a traveling trolley on said auxiliary  
 75 crane.

8. The combination with a main crane and hoisting mechanism carried thereby, of an auxiliary crane carried by said main  
 80 crane, the girders of the auxiliary crane being at right angles to the girders of the main crane, and hoisting mechanism carried by said auxiliary crane.

9. In an overhead traveling crane, the combination with a main traveling bridge  
 85 and hoist mechanism thereon, of upright frames carried by said bridge, top girders connecting said frames, a bridge carried by said top girders and hoist mechanism on said  
 90 bridge.

10. In an overhead crane the combination with a traveling bridge and a traveling trolley  
 95 thereon, of upright posts carried by said bridge, a pair of top girders parallel with the main-crane girders and carried by said posts, an auxiliary traveling bridge mounted on said top girders and hoist mechanism carried by said auxiliary bridge.

11. The combination with a main traveling crane and a traveling trolley thereon, of  
 100 upright posts at the opposite ends of said main crane, top girders secured to said posts, an auxiliary crane mounted to travel on said top girders and hoisting mechanism on said  
 105 auxiliary crane.

12. The combination with a main traveling crane and a traveling trolley thereon, of  
 110 upright posts at the opposite ends of said main crane, top girders secured to said posts, an auxiliary crane mounted to travel on said top girders, and a trolley on said auxiliary crane.

13. The combination with a traveling bridge and a traveling trolley thereon of an  
 115 auxiliary hoist mechanism carried by the bridge in a plane above the traveling trolley.

14. In an overhead traveling crane, the combination with a main bridge carrying  
 120 hoisting mechanism, of an auxiliary bridge carried by the main bridge, the girders of the auxiliary bridge being above and at right angles to the girder of the main bridge, and hoist mechanism on said auxiliary bridge.

15. In an overhead traveling crane the combination with a main bridge having a  
 125 traveling trolley thereon, of an auxiliary crane carried by the main bridge, the hoist mechanism of the auxiliary crane being in a

plane above the hoist mechanism on the main bridge.

16. In an overhead traveling crane, the combination with a main crane and a traveling trolley thereon, of an auxiliary crane mounted to travel on the main crane, and a traveling trolley on said auxiliary crane.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM HENRY MORGAN.

Witnesses:

T. D. RUSSELL,  
N. C. FETTERS.