

No. 879,750.

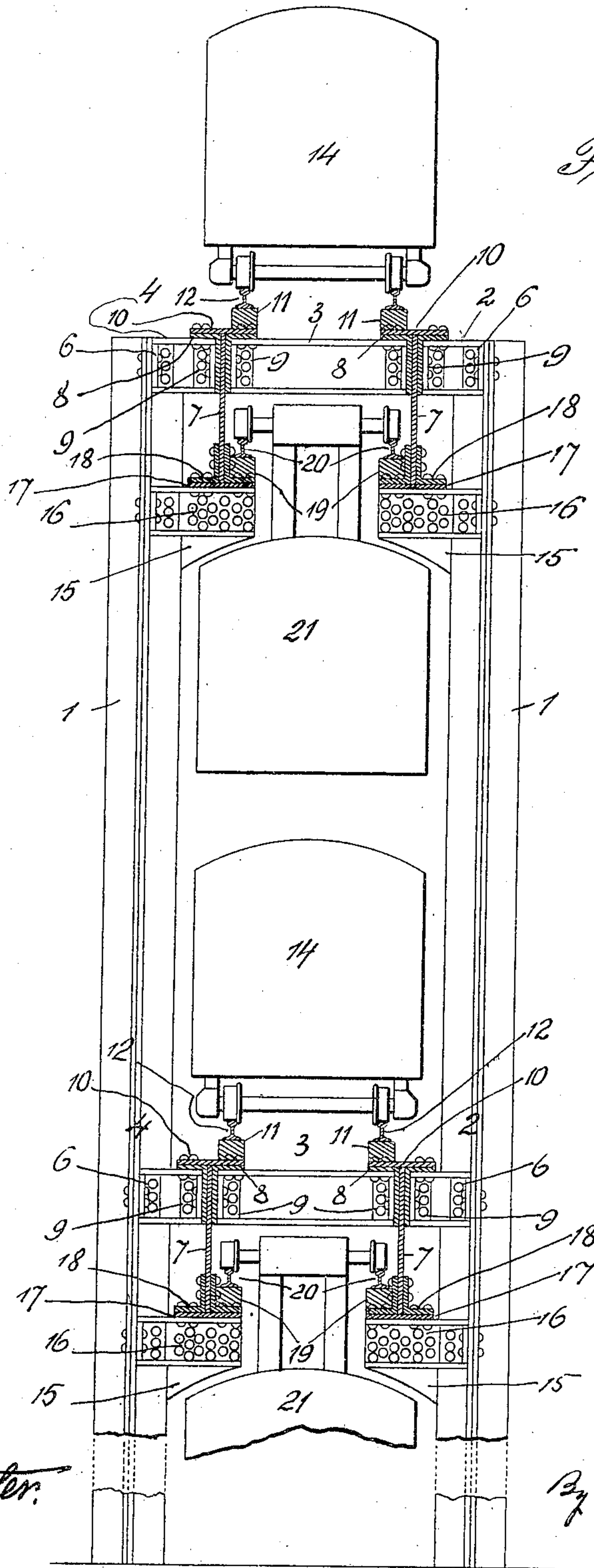
PATENTED FEB. 18, 1908.

G. DIPPEL & C. KOENIG.

RAILWAY.

APPLICATION FILED AUG. 22, 1907.

2 SHEETS—SHEET 1.



Witnesses

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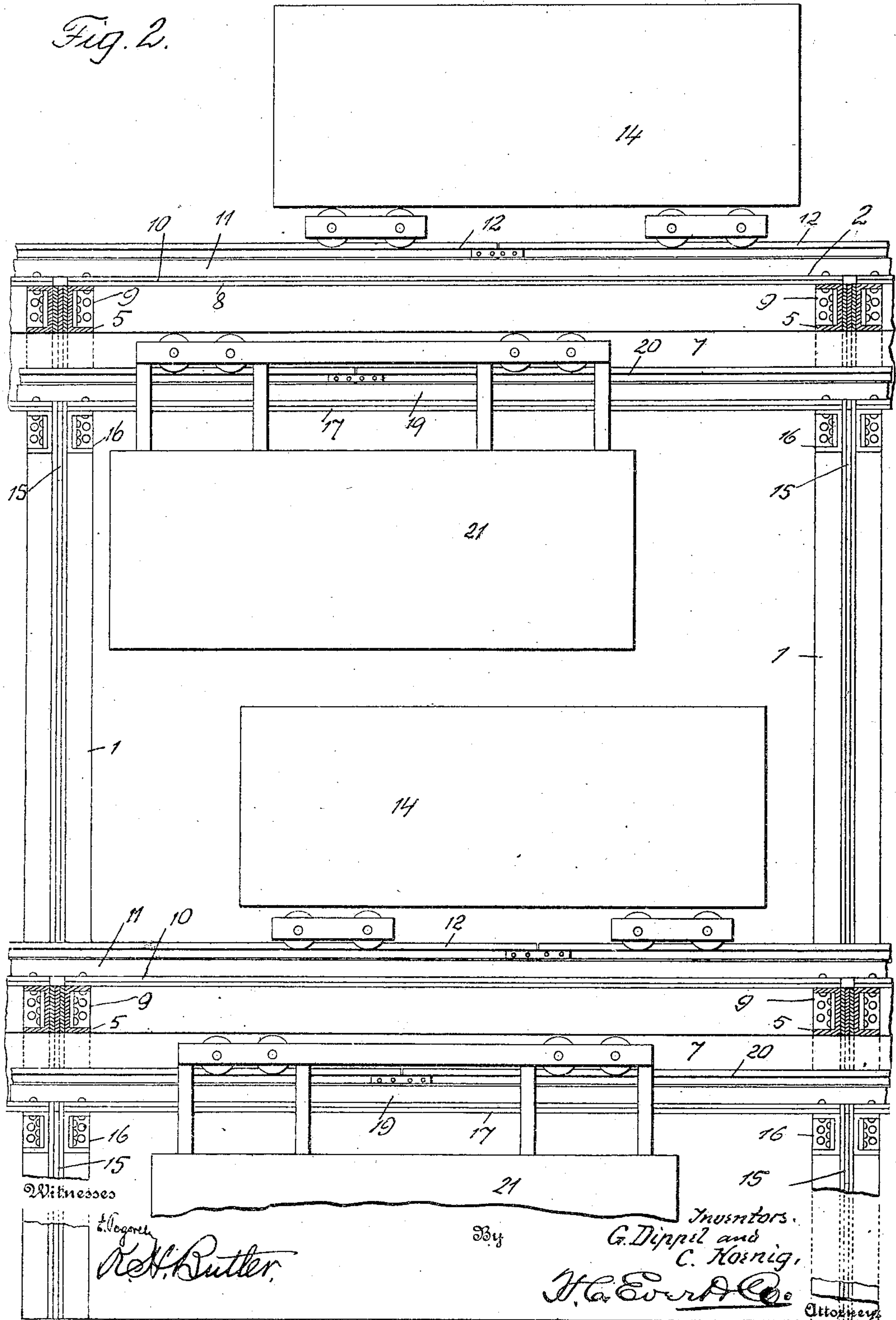
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# UNITED STATES PATENT OFFICE.

GEORGE DIPPEL AND CHRISTIAN KOENIG, OF PITTSBURG, PENNSYLVANIA.

## RAILWAY.

No. 879,750.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed August 22, 1907. Serial No. 389,682.

*To all whom it may concern:*

Be it known that we, GEORGE DIPPEL and CHRISTIAN KOENIG, citizens of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Railways, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to railway construction, and more particularly to that type of railways having elevated tracks.

The object of our invention is to provide a strong and durable structure for supporting a plurality of tracks, from some of which trains are suspended.

Our invention aims to provide a railway structure particularly designed for the elevated trains of large cities, and in this connection we arrange tracks upon the structure so as to economize in the space ordinarily required for the operation of a number of trains. We have arranged the tracks one above the other, and use suspended trains upon two of said tracks, and in this manner the number of tracks can be multiplied without obtaining a very high structure. To this end, we use structural steel in the form of beams, girders, standards, connecting plates and brackets for producing a rigid structure capable of withstanding the vibratory stresses and strains to which elevated structures are subjected by the rolling stock of a railway.

The detail construction entering into our invention will be presently described and then specifically pointed out in the appended claims.

In the drawings, Figure 1 is a cross sectional view of a railway constructed in accordance with our invention, and Fig. 2 is a longitudinal sectional view of the same.

To put our invention into practice, we use a plurality of angle bars and assemble the said angle bars in groups of four, with confronting flanges, to provide standards or uprights 1, said standards or uprights being arranged in pairs and said pairs suitably spaced apart to support elevated tracks of our railway. The standards 1 are connected together at their upper ends and intermediate their ends, the connections comprising plates 2, 3 and 4, said plates being reinforced by channel bars 5, and the plates

2 and 4 secured to the standards 1, by brackets 6.

Arranged between the confronting edges of the plates 2, 3 and 4 are depending longitudinally disposed stringer plates 7, serving functionally as hangers. These stringer plates or hangers 7 are provided with angle plates 8 and said angle plates or hangers are connected to the confronting edges of the plates 2, 3 and 4 by brackets 9. Upon the angle bars 8 are riveted longitudinally disposed tie plates 10 for longitudinally disposed ties or sleepers 11, these ties or sleepers carrying rails 12, upon which the cars 14 or other rolling stock is adapted to travel.

The standards 1 directly beneath the plates 2 and 4 are provided with inwardly extending plates 15, these girder plates being connected to the standards by channel girders 16. Upon the channel girders 16 are arranged longitudinally disposed tie plates 17, said plates being connected to the plates or hangers 7 by angle plates or brackets 18. The tie plates 17 support longitudinally disposed ties or sleepers 19 of rails 20, and upon said rails is adapted to travel the suspended rolling stock 21. The tracks and their construction at the upper ends of the standards 1 are identical with the tracks and their construction directly beneath, therefore it will be observed that as illustrated, the railway structure is capable of accommodating four trains, two of which are suspended from tracks, arranged directly beneath the tracks for supporting other trains.

Our invention principally resides in providing a structure upon which a plurality of trains can be operated, some of which are suspended from their supporting tracks, therefore we do not care to confine ourselves to the tracks being located one above the other, as they may be disposed to more advantageously support trains.

Having now described our invention what we claim as new, is:—

1. A railway structure embodying a plurality of standards, constructed of angle bars having confronting flanges, plates connecting said standards, channel bars connecting said standards, stringer plates constituting hangers arranged between the confronting ends of said plates and channel bars, longitudinally disposed rail sleepers supported upon said plates and channel bars, girder plates carried by said standards, channel bars con-

necting said girder plates with said standards,  
angle plates connecting said channel bars  
with said hangers, and longitudinally dis-  
posed sleepers carried by said channel bars  
5 beneath the above mentioned sleepers, sub-  
stantially as described.

2. A railway elevated structure embody-  
ing standards, plates connecting said stand-  
ards, channel bars connecting said stand-  
ards, rail sleepers carried by said channel  
10 bars, sleepers arranged beneath the first

mentioned sleepers and supported by said  
standards, and hangers for directly connect-  
ing the last mentioned sleepers with the first  
mentioned sleepers.

15

In testimony whereof we affix our signa-  
tures in the presence of two witnesses.

GEORGE DIPPEL.

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