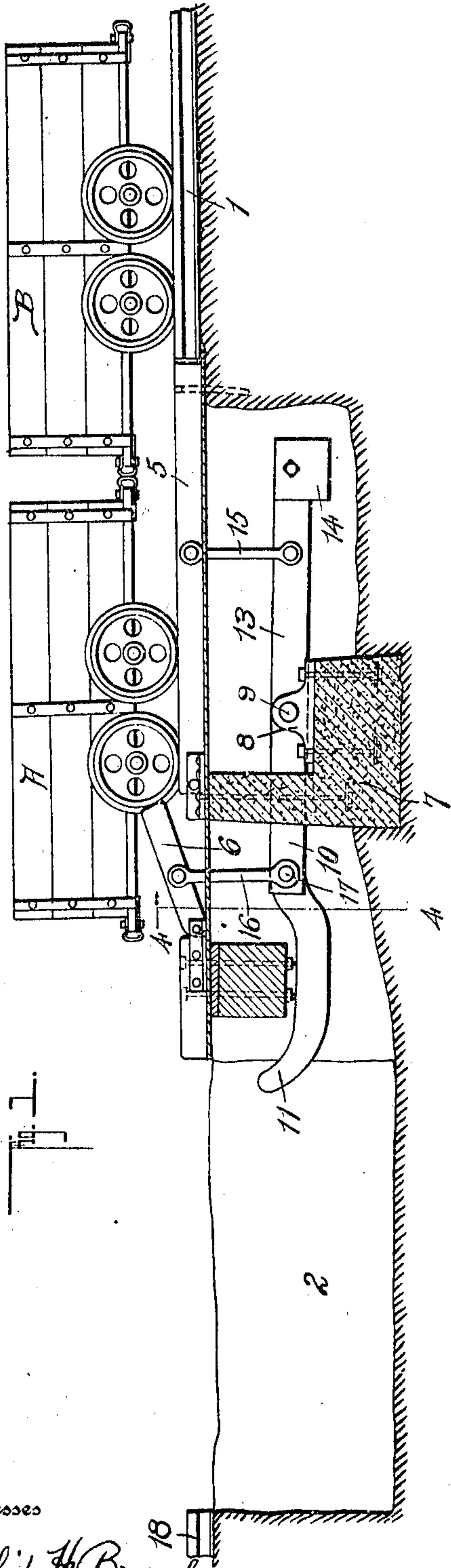


APPLICATION FILED JUNE 15, 1909.

956,037.

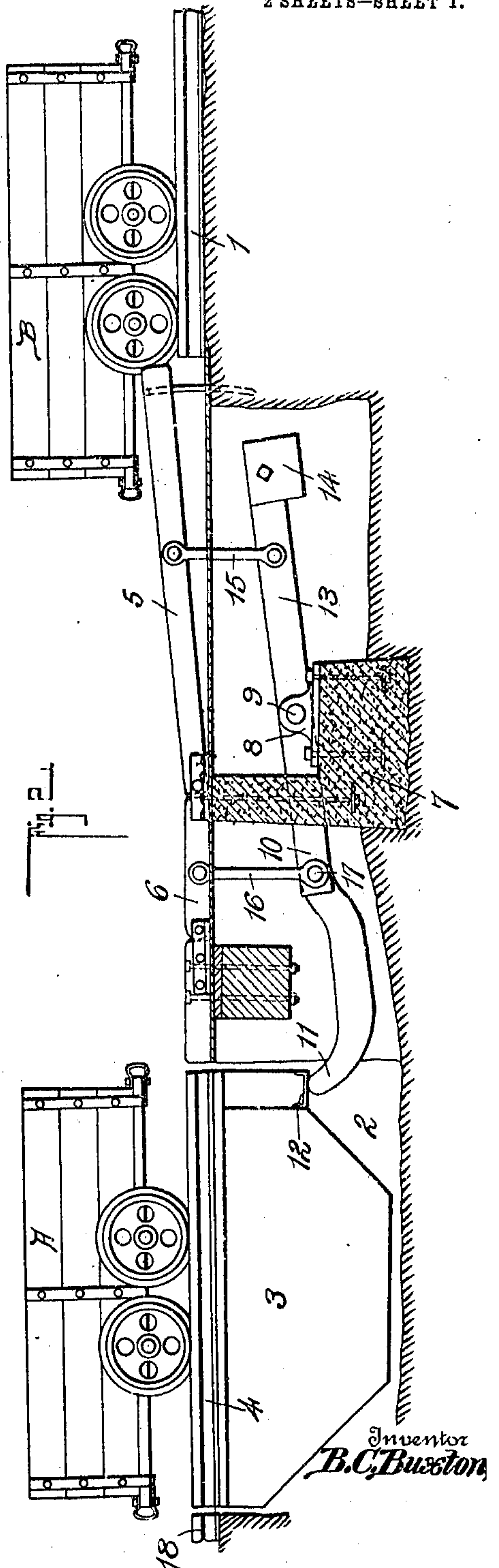
Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.



Witnesses

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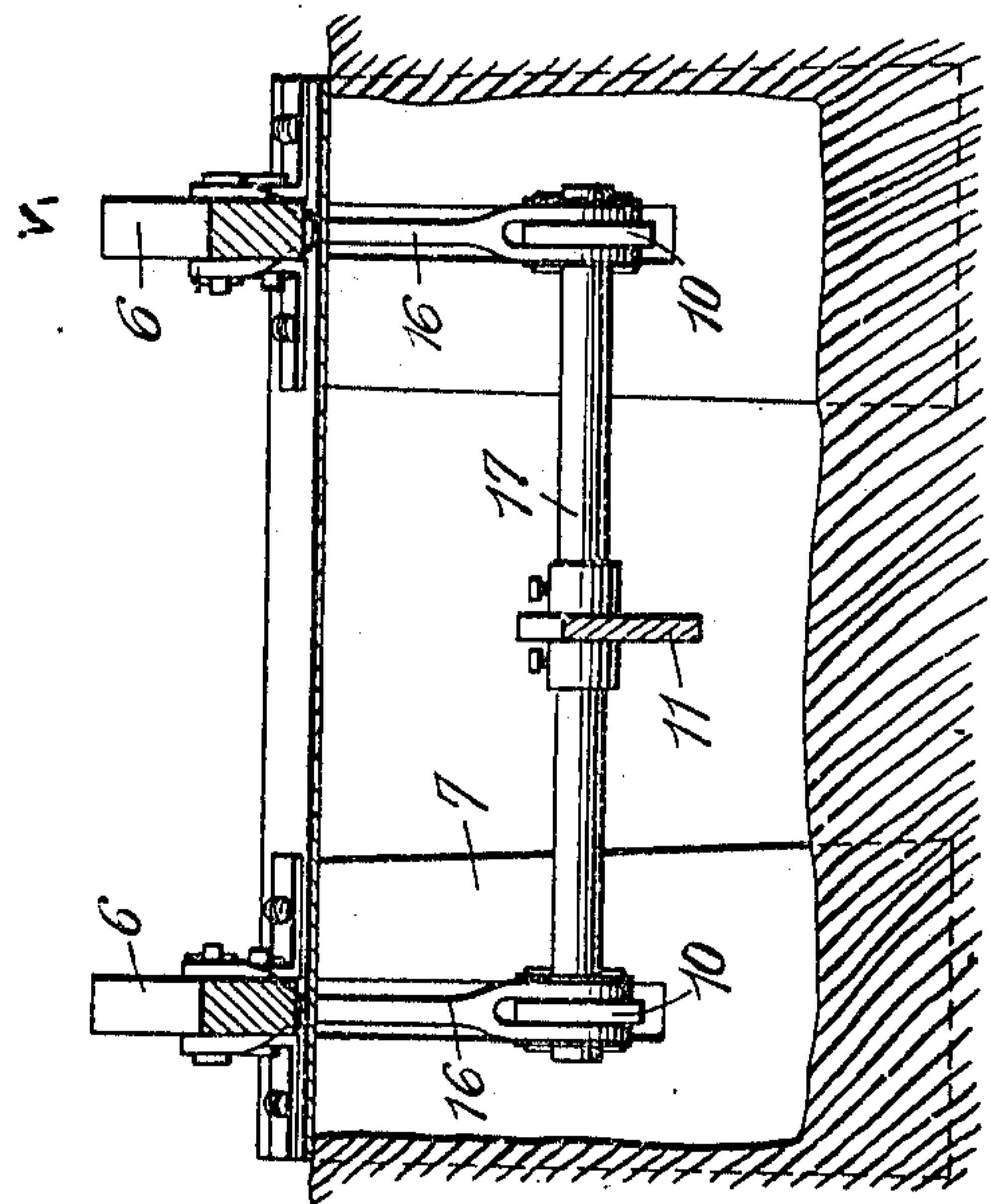
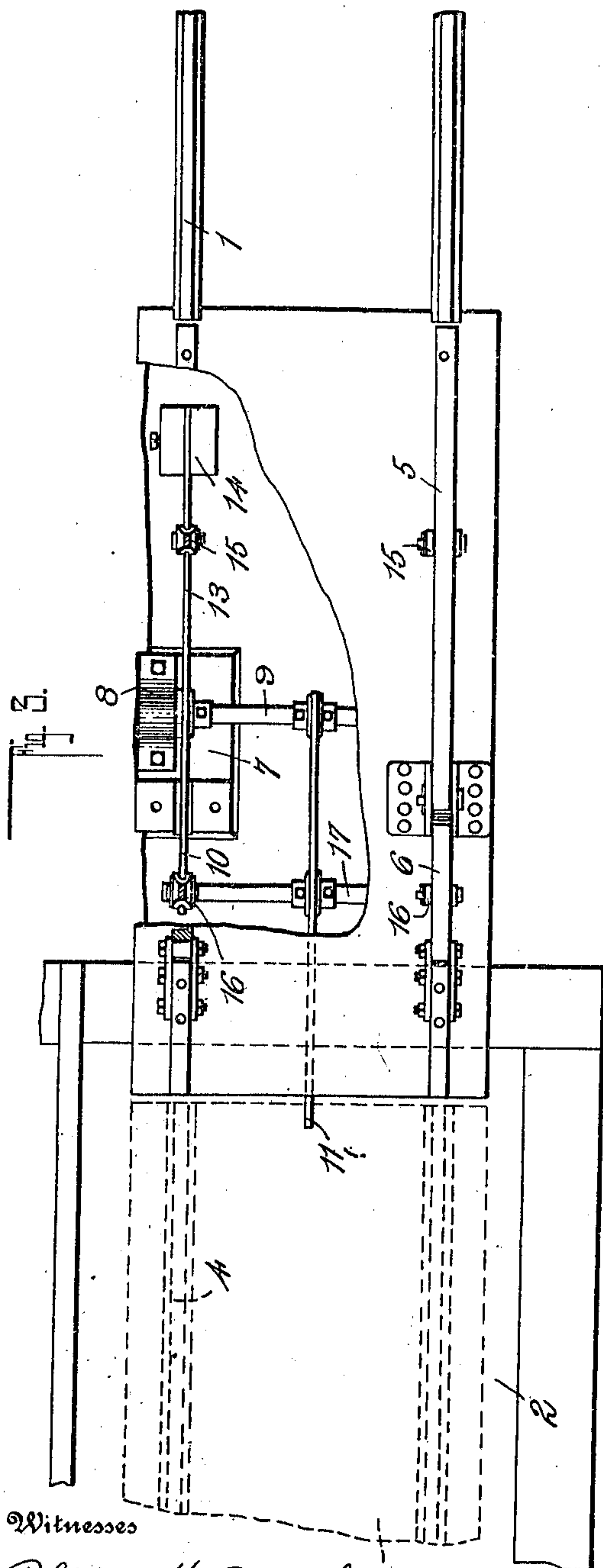
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 AUTOMATIC CAGER.
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 2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

BENJAMIN C. BUXTON, OF BUXTON, IOWA.

AUTOMATIC CAGER.

956,037.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed June 15, 1909. Serial No. 502,373.

To all whom it may concern:

Be it known that I, BENJAMIN C. BUXTON, a citizen of the United States, residing at Buxton, in the county of Monroe and State of Iowa, have invented a new and useful Improvement in Automatic Cagers, of which the following is a specification.

This invention relates to a device for automatically delivering a loaded mine car to a cage for the purpose of hoisting said car to the surface, the running of the loaded car upon the cage throwing an empty car from the cage, and bringing a second car into position to be subsequently automatically delivered to the cage, when it again descends.

The invention consists of a slightly inclined trackway leading to the shaft in which the cage works, said trackway being interrupted adjacent the shaft-pit by the interposition of pivoted rails, the said rails being swung in a vertical plane by means operated in part by weights and in part by means carried by the cage.

In the accompanying drawings: Figure 1 is a sectional side elevation showing the parts in the position occupied before the descent of the cage. Fig. 2 is a similar view showing the parts in position while the cage is down, one of the cars having been delivered to the cage. Fig. 3 is a plan view, a protecting shield of boiler plate being broken away to show parts beneath. Fig. 4 is a section on the line 4-4 of Fig. 1.

In these drawings 1 represents a trackway having a two-percent. grade which is just sufficient to cause a loaded car to move when set free, and said trackway leads toward the pit 2 into which an elevator cage 3 descends, the said cage carrying a track section 4 which forms a continuation of the main track.

In the track adjacent the pit 2 are placed two pivoted sections of track in both of which the rails 5 and 6 have their pivoted ends adjacent the pit and swing in a vertical plane, the free ends of said rails acting as stops for the mine car wheels. Beneath these pivoted rails a portion of the earth is removed forming a space within which the operating mechanism can work, and in said space are suitable concrete supports 7 upon which are placed bearings 8 for a transversely arranged shaft 9 to which shaft is fixed a lever 10 having an upwardly curved forward end portion 11 adapted to be en-

gaged by a shoe 12 formed of channel iron and carried by the cage 3. Mounted also upon the shaft 9 and beneath the rails 5 and 6 are levers 13 provided with counter-weights 14. These levers are connected by means of links 15 with the rails 5 and by means of links 16 with the rails 6, the links 15 being at the rear of the shaft 9 and the links 16 being in advance of said shaft. The shaft 17 runs through the forward ends of the levers 13 and also passes through the lever 10, thus connecting all of the levers together.

It will be obvious from the above description and the drawings that the pivoted rails 5 and 6 being connected by links to levers upon opposite sides of the pivotal points of the levers will work in opposition to each other.

The operation of the device is as follows: When the mine cage is up the counter-weights 14 will hold down the rear end of the lever 13, thus lifting the shaft 17, lever 10, and through the links 16 lifting the free end of the rails 6, said rails being comparatively short. When a train of loaded cars is run upon track 1 toward the pit 2 the first car A will run upon the track rails 5, which are in normal position, and the front wheels of said car will strike the uplifted ends of the rails 6, and further movement of the car will be checked. The rails 5 are only long enough to accommodate one car at a time and the second car B will remain upon the main track rails 1. When the cage 3 descends the shoe 12 will depress the lever 10 by striking the upwardly curved end portion 11, thus drawing down the rails 6 and at the same time causing the rear ends of the lever 13 to lift thus elevating the rails 5. This will not only set the car A free, but will give it a momentum which will send it upon the cage and cause it to force an empty car off the cage and upon a suitable track 18 upon the opposite side of the pit. The second car B will move forward far enough for its wheels to strike the uplifted ends of the rails 5. When the cage ascends its weight will be removed from the lever 10, the counter-weights 14 will return the parts to the positions shown in Fig. 1, and car B will then run upon the rails 5 and will take the place occupied in Fig. 1 by car A.

What I claim is:

1. The combination with a mine cage, of

a track leading thereto, said track comprising two sections having rails pivoted to swing in a vertical plane, means for elevating the free ends of the rails of one of said sections, and at the same time lowering to normal position the rails of the other section, a portion of said means being carried by the elevator cage.

2. The combination with a mine cage, of a track leading thereto, said track including sections in which the rails are pivoted at the ends adjacent the cage to adapt them to swing in a vertical plane, a lever mounted below said sections and having an end portion engaged by a portion of the cage as it descends, means operated by said lever for lifting the rails of one of said sections when the lever is depressed, and counter-weights for lifting the rails of the other section when the lever is relieved of the weight of the cage.

3. The combination with a mine cage, of a track leading thereto, said track having two sections, the rails of which are adapted to swing vertically, said rails being pivoted

at their ends adjacent the cage, and means operable in part by descent of the cage and in part by gravity for elevating the rails of one section when the rails of the other section are in normal position.

4. A device of the kind described comprising a mine cage, a track leading thereto, said track comprising sections adapted to swing in a vertical plane, a pivoted lever adapted to be engaged by a portion of the cage and pressed downwardly, parallel levers pivoted intermediate their ends, links pivotally connecting said parallel levers to the respective track sections, the said links being upon opposite sides of the pivotal points of the parallel levers, means connecting the first mentioned lever with the parallel levers so that all of the levers work in unison, and counter-weights upon the rear ends of the parallel levers, as and for the purpose set forth.

BENJAMIN C. BUXTON.

Witnesses:

S. J. TENNANT,

E. F. BROWN.