

No. 654,455.

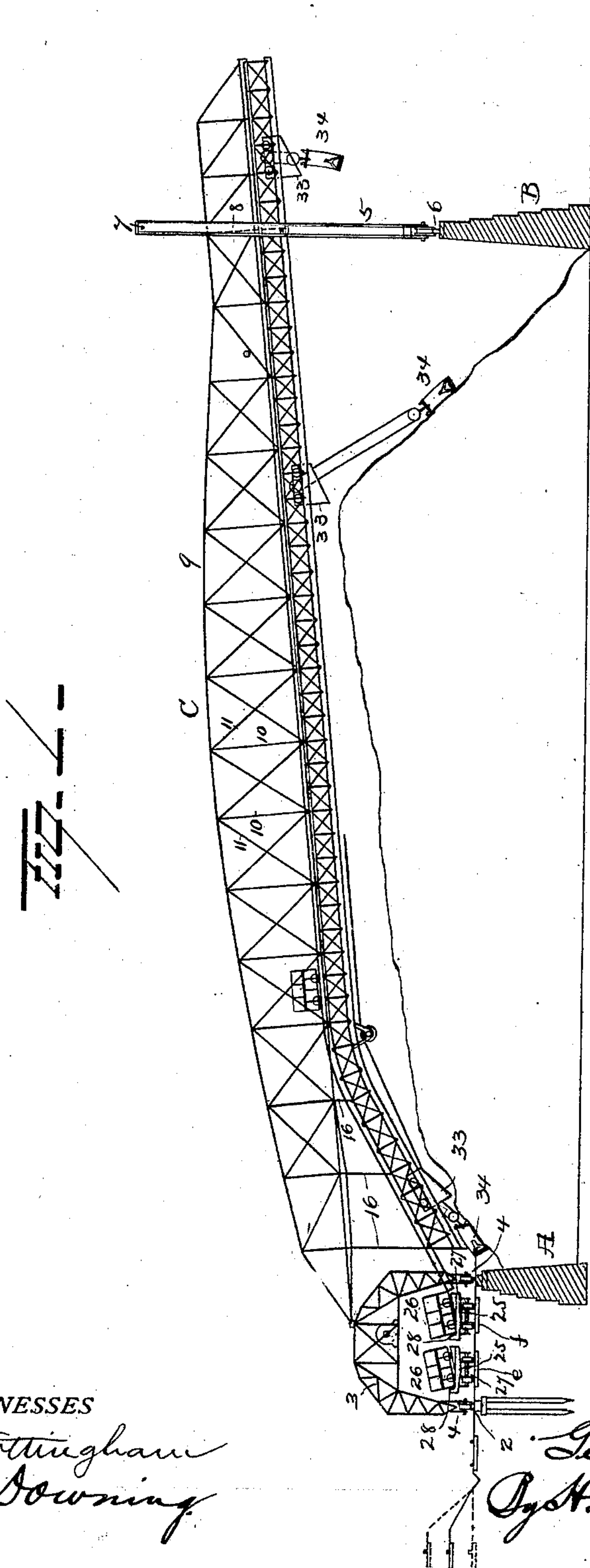
Patented July 24, 1900.

G. H. HULETT.  
BRIDGE CONVEYER.

(Application filed Dec. 1, 1899.)

(No Model.)

4 Sheets—Sheet 1.



WITNESSES

*E. D. Nottingham*  
*G. F. Downing*

INVENTOR

*Geo. H. Hulett*  
*By H. A. Seymour*  
Attorney

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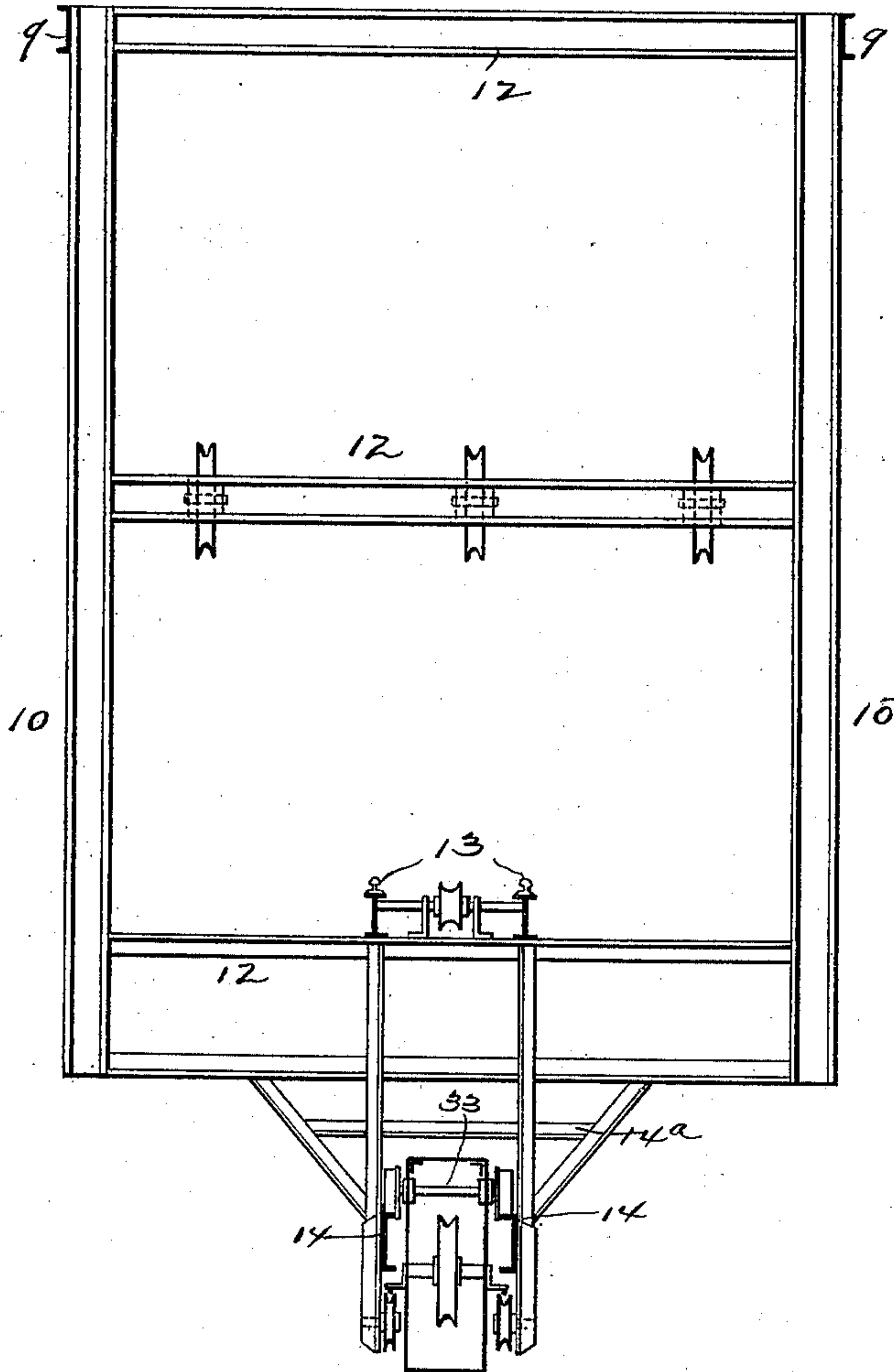


Fig. 2.

WITNESSES

E. D. Nottingham  
G. J. Downing

INVENTOR

Geo. H. Hulett  
By H. A. Seymour  
Attorney

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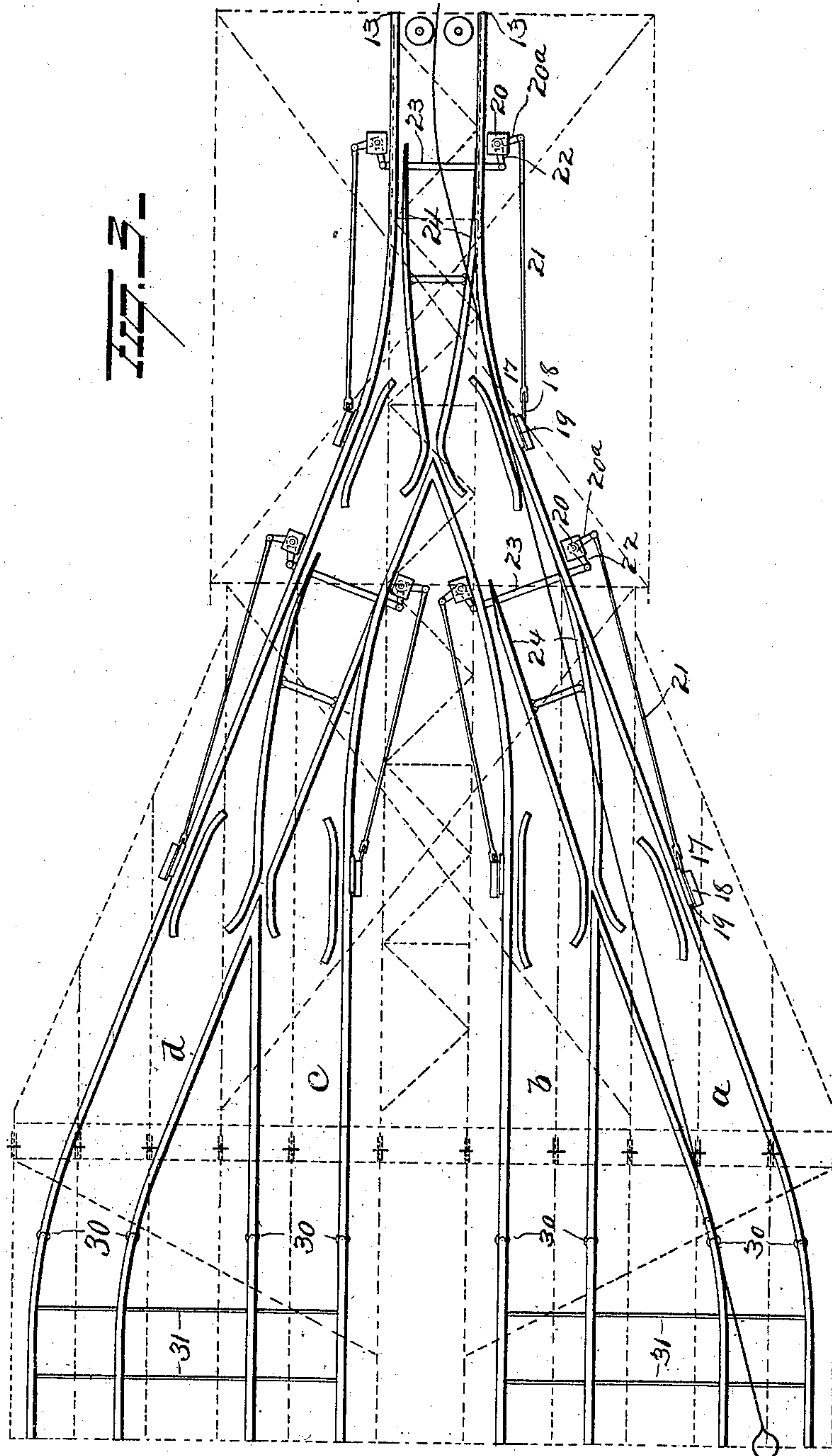
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*By H. A. Seymour*  
Attorney



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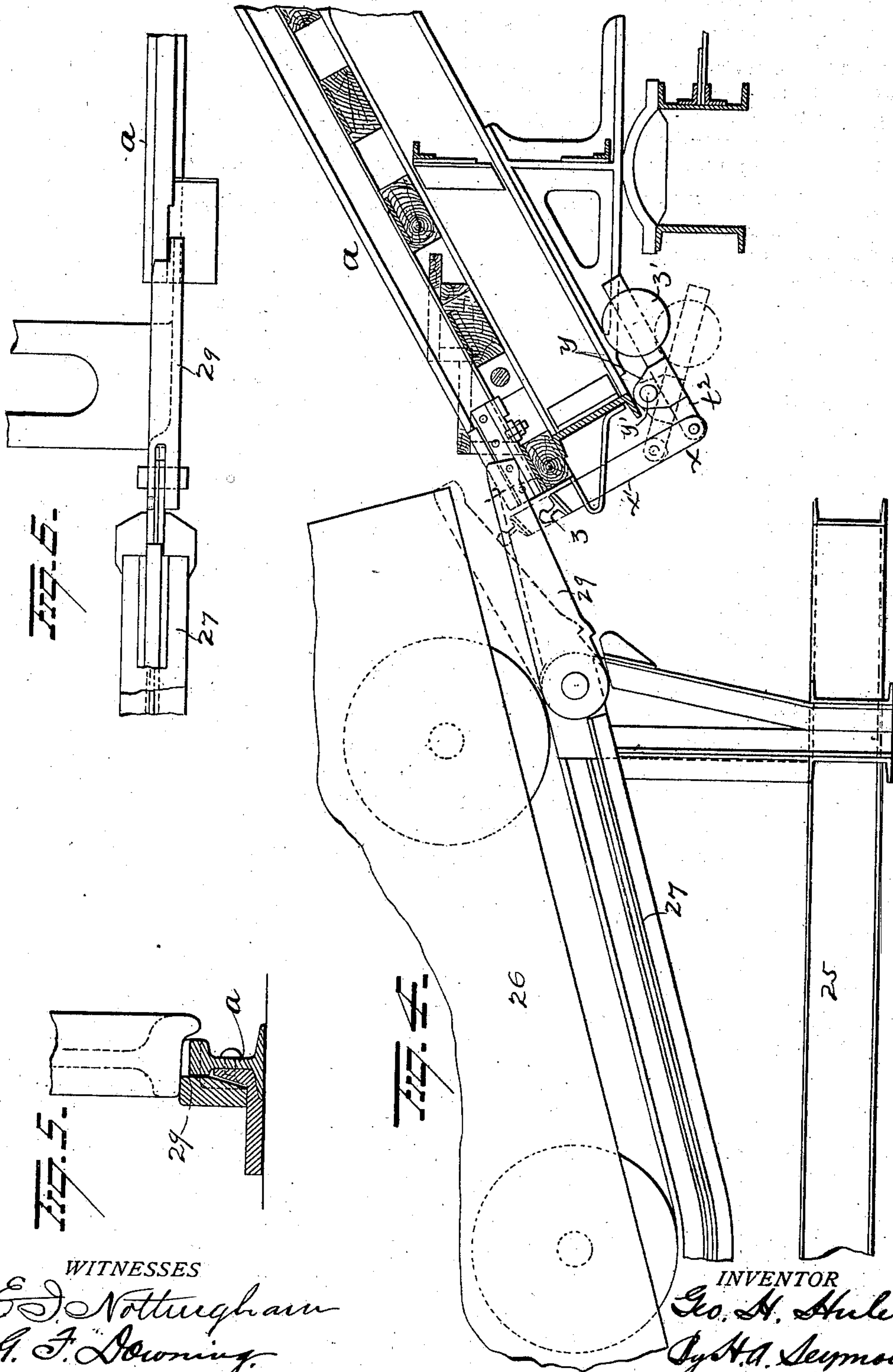
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G. F. Downing

INVENTOR

Geo. H. Hulett  
By H. A. Seymour  
Attorney



# UNITED STATES PATENT OFFICE.

GEORGE H. HULETT, OF AKRON, OHIO, ASSIGNOR OF ONE-HALF TO THE  
WEBSTER CAMP & LANE MACHINE COMPANY, OF SAME PLACE.

## BRIDGE CONVEYER.

SPECIFICATION forming part of Letters Patent No. 654,455, dated July 24, 1900.

Application filed December 1, 1899. Serial No. 738,903. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE H. HULETT, a resident of Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Bridge Conveyers; 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 appertains to make and use the same.

My invention relates to an improvement in conveyers known as "bridge" conveyers, one object of the invention being to provide a conveyer which will permit of a vast dumping area beneath the same.

A further object is to provide a conveyer with a series of tracks converging into a single track and automatic means for guiding the cars onto the single track and back to the track on which they started.

A further object is to provide a conveyer with inclined or sloping tracks at one end and improved means for guiding the cars onto said tracks.

A further object is to provide a conveyer with a double track, one track disposed below the other, and devices adapted to move on the respective tracks independent of each other.

With these objects in view the invention consists in a bridge movably supported at each end and a track on said bridge extending below the bridge-support at one end thereof.

The invention further consists in a bridge conveyer having a track thereon, a series of tracks converging into said single track, and automatic means for throwing said tracks into alinement with the single track.

The invention further consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view illustrating my improvements. Fig. 2 is a view in cross-section of the same. Fig. 3 is a plan view, and Figs. 4, 5, and 6 are detail views.

A B represent two parallel walls of masonry spaced a suitable distance apart and between

which ore is to be piled or dumped. One rail 1 is mounted on the wall A, and another rail 2 is disposed parallel thereto to form a track on which a tower 3 is mounted, and said tower is provided with suitable wheels 4 to run on the track, and hence permit of longitudinal movement on the tower.

A shear-leg 5 is mounted on a rail 6 on the wall B, and said shear-leg is provided on its top cross-bar 7 with downwardly-extending links 8, and a bridge C is secured at one end to the tower 3 and near its other end to the downwardly-projecting links 8 on the shear-leg, hence permitting of a slight independent movement of the bridge. The bridge C is constructed of a series of channel-irons 9, upright bars 10, braces 11, and cross-bars 12, arranged and secured together in any approved manner consistent with strength and durability. On the lower cross-bars 12 of the bridge are secured rails 13, and below said rails 13 and parallel therewith is secured another track 14, supported in framework 14<sup>a</sup>, depending from the lower cross-bars 12. Each pair of rails or tracks 13 and 14 extend from the far end of the bridge C to a point near the forward end thereof where the upper track 13 merges into preferably four diverging tracks *a*, *b*, *c*, and *d*, which slope or incline below the bridge and are supported by suitable supports 16, extending downward from the bridge, and said tracks terminate adjacent to the tower 3.

The tracks *a*, *b*, *c*, and *d* are provided with automatically-operated switches 17, which comprise a vertically-disposed bell-crank lever 18, mounted beside one rail of the track and provided with a lever 19, adapted to be struck by the wheel of a car passing over the track. One arm of the lever 18 is connected with an arm 20<sup>a</sup> of a horizontally-disposed bell-crank lever 20 by a rod 21, and the other arm 22 of the lever 20 is connected with a bar 23, disposed transversely beneath the track and to which the pivoted ends 24 of the bar 23 are secured. The free end of the bar 23 is connected with an arm of a bell-crank lever forming a part of an automatic switch precisely like the one just described. Hence it will be seen that when a car runs upon one track it will strike the lever 19, de-



press the same and throw the switch, and at the same time raise the lever 19 on the next adjacent track. The tracks will thus be maintained in their changed position until after the first car is dumped, returns to its starting-point, and another car moves up the second track and strikes the lever 19, which operation will compel the parts to assume their former positions, as above explained.

Between the rails 1 and 2 are disposed tracks *e* and *f*, on which transfer-cars 25 are adapted to run and convey dumping-cars 26 from the mines or point of loading. The transfer-cars 25 are provided with transversely-disposed tracks 27, inclined in conformity to the incline of the tracks on the bridge, and said tracks 27 are provided with suitable stops 28 to hold the cars 26 on the transfer-cars 25.

In order to insure the alinement of the tracks 27 with the tracks on the bridge, I provide connecting-rails 29, approximately inverted-L-shaped in cross-section, pivoted to the rails of the tracks 27 and of sufficient length to overlap the rails of the tracks on the bridge. The extreme ends of the rails comprising the tracks *a*, *b*, *c*, and *d* are hinged or pivoted, as shown at 30, and the rails of the tracks *a b* and *c d* are connected together, respectively, by rods 31, so that they can be moved by means of any suitable operating device to move the rails of each pair of tracks simultaneously to aline two tracks on the bridge with the tracks on a transfer-car, and hence avoid the necessity of alining each track separately.

When it is desired to run a dumping-car onto the track of the bridge, the track 27 on the transfer-car is brought as near in alinement with the track on the bridge as possible, when the operator operates the tread-lever to throw the bridge-track section as near into alinement as he can with the naked eye. The connecting-rails 29 are then dropped, and if the rails do not exactly aline the weight of the car passing over the sections 29 will, owing to the shape of the connecting-sections, force the track-sections on the bridge into proper alinement. A lever *x*, comprising upright member *x'* and horizontal member *x<sup>2</sup>*, pivoted together, is pivotally connected to a depending lug *y* on the bridge by means of a pivot-pin *y'* passing, respectively, through the member *x<sup>2</sup>* and lug *y*. The upper end of the member *x'* is adapted to support a cross-bar *z*, which is held normally in a plane higher than the plane of the tracks on the bridge by a counterweight *z'* on the free end of the member *x<sup>2</sup>* to hold the connecting-rails 29 elevated, and hence prevent said rails from striking against the bridge when the transfer-cars are moved. The weight of the dumping-cars passing from the transfer-cars onto the bridge will force the sections 29 down, and when the car is returned to the transfer-car the counterweight

will compel the sections 29 to resume their elevated position.

A truck 33 is mounted to run on the track 14, and said truck is adapted to carry any approved scoop or bucket 34 to take ore, &c., from the pile and convey it to a point beyond the wall B, where it is dumped into suitable cars (not shown) for conveying it to furnaces or other apparatus for separating the ore.

I may employ any approved means for propelling the cars, but have shown in the accompanying drawings a cable 35, which is operated by any approved engine (not shown) at the forward end of the bridge, and said cable is passed around a pulley at the far end of the bridge and extends along the track to the forward end of the bridge, where it is provided with a loop for attachment to the cars.

It will be seen that by dropping the forward end of the track down below the horizontal plane of the main part of the bridge I thus attain a large space below the bridge for the piling of ore, &c., and owing to the series of tracks converging into the main track on the bridge will greatly facilitate rapid dumping, as above set forth.

I would have it understood that I do not limit myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. A conveyer comprising a bridge, an inclined track on one end of said bridge terminating near a track running at right angles thereto, a transfer-car having a track thereon, a dumping-car on said track of the transfer-car, and a device operating automatically to aline the tracks on the transfer-car with the track on the bridge.

2. A conveyer comprising a bridge having an inclined portion, a series of tracks on said inclined portion, a single track to which the series of tracks lead, a track disposed at right angles to the bridge, transfer-cars on said last-mentioned track, dumping-cars on the transfer-cars, and means for causing the series of tracks on the bridge to aline with the wheels of the dumping-cars.

3. The combination with a bridge having an inclined end and a track thereon, of a track at right angles to the bridge, a transfer-car on said last-mentioned track, an inclined track disposed transversely on the transfer-car, a dumping-car mounted on said inclined track and means for causing the dumping-car to run into the track on the inclined end of the bridge.

4. The combination with a tower and a shear-leg, of a bridge supported near one end by the shear-leg, the other end of said bridge supported on the tower and having an inclined portion terminating in proximity to the base of the tower.



5. In a conveyer, the combination with rails spaced apart, of a bridge, means for movably supporting said bridge on said rails, a suitable height above the same, and a track on said bridge, one end of said track inclined at one end below the bridge and terminating near one of said rails.

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

GEORGE H. HULETT.

Witnesses:

S. W. FOSTER,  
S. G. NOTTINGHAM.