

(No Model.)

2 Sheets—Sheet 1.

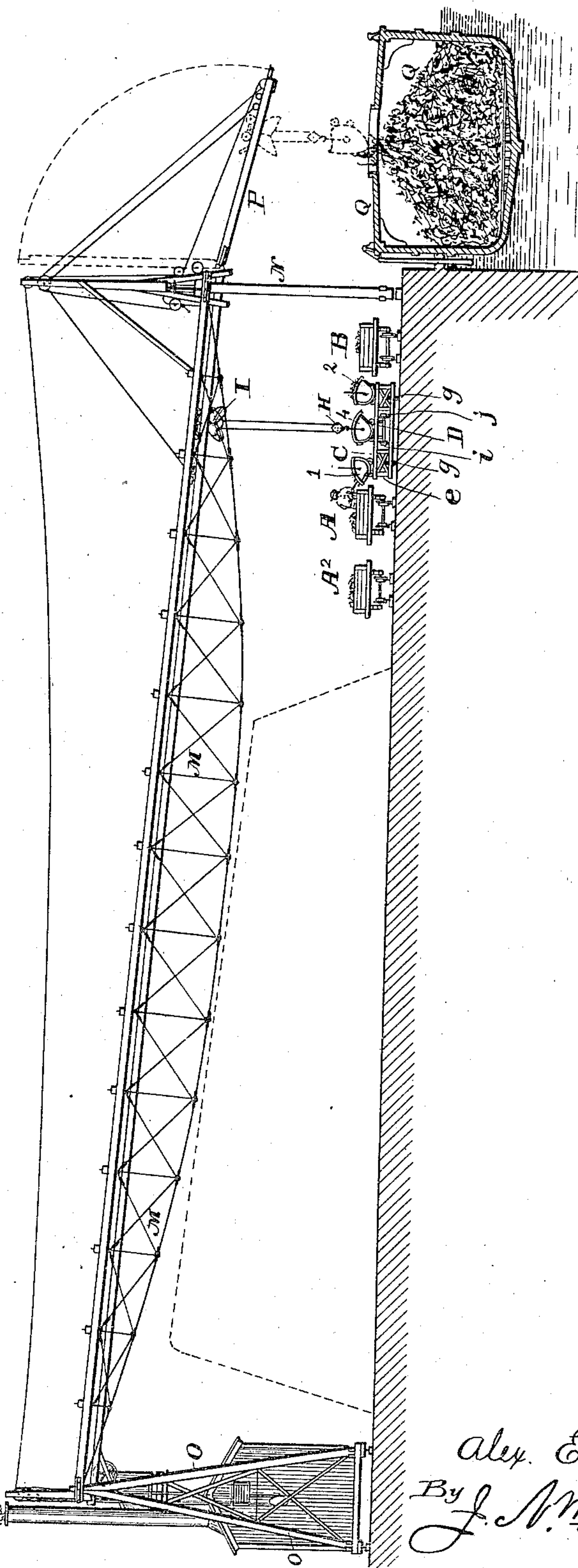
A. E. BROWN.

APPARATUS FOR DISCHARGING CONTENTS OF VESSELS AND CARS, &c.

No. 314,424.

Patented Mar. 24, 1885.

FIG. 1.



ATTEST.

*J. Henry Kaiser*  
*Jacob Felbel*

INVENTOR.

*Alex. E. Brown*  
By *J. N. McIntire*  
*Att'y.*

(No Model.)

2 Sheets—Sheet 2.

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FIG. 3.

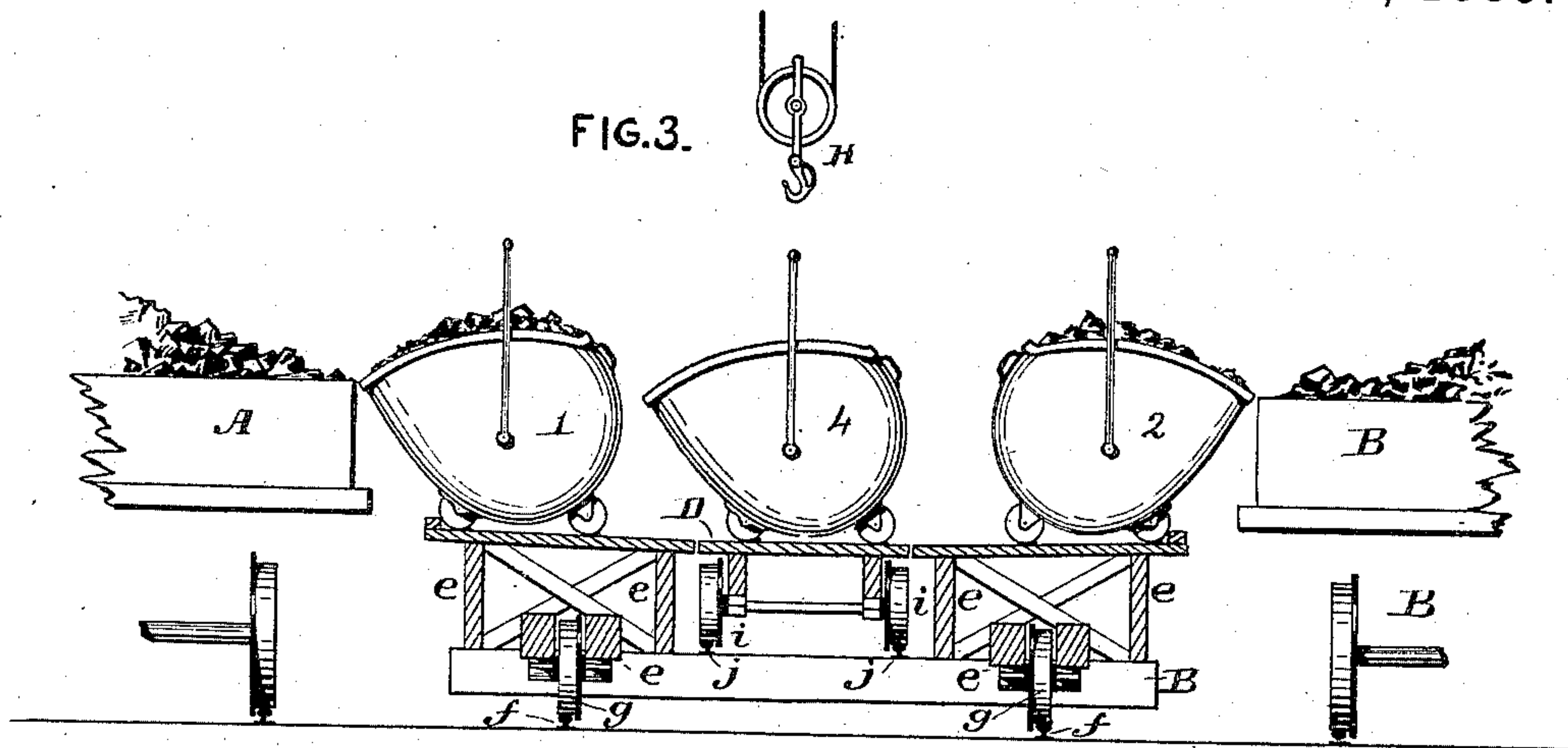
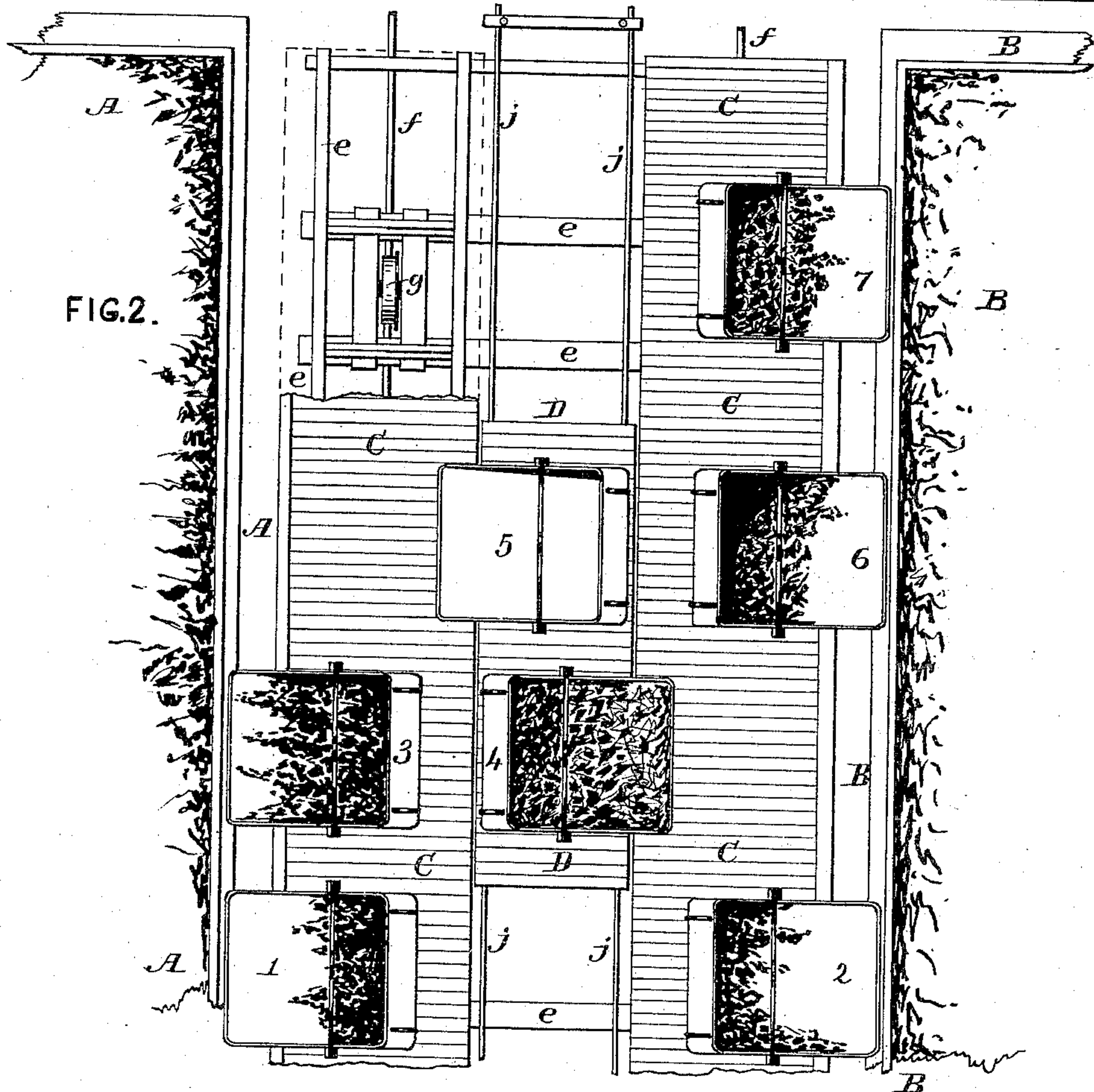


FIG. 2.



ATTEST.  
J. Henry Kaiser.  
Jacob Felbel.

INVENTOR.  
By Alex. E. Brown.  
J. N. McIntire  
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# UNITED STATES PATENT OFFICE.

ALEXANDER E. BROWN, OF CLEVELAND, OHIO.

APPARATUS FOR DISCHARGING CONTENTS OF VESSELS AND CARS, &c.

SPECIFICATION forming part of Letters Patent No. 314,424, dated March 24, 1885.

Application filed January 12, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER E. BROWN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Apparatus for Discharging Contents of Vessels and Cars and Conveying the Same to Hoisting and Conveying Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this application.

My invention relates to a novel contrivance or system of devices for facilitating and expediting the transfer of ore, coal, &c., from cars to some other locality by means of any of the well-known hoisting and conveying machines or apparatus.

Previous to my invention it has been possible to unload the cars of a train of their contents by means of the usual buckets of hoisting and conveying machines and transfer said contents to the hold of a vessel at a dock, to a stock-pile, or other destination, at a comparatively slow rate and at considerable labor and expense.

I propose by my invention to provide a system and means by which such work can be done much more expeditiously, and at the same time much more economically and satisfactorily; and to this main end and object my invention may be said to consist, essentially, in the employment of a portable car-like platform or contrivance arranged and operating to be run in between and placed contiguous to two of the cars or trains of cars to be unloaded, and provided with a centrally-arranged platform car or carrier, the whole thus constituting a sort of duplex car or movable platform adapted to hold on its two outer portions two series of buckets to be filled from the adjoining cars and to receive two or more of such buckets on its central traveling section, to be by the latter properly delivered to the action of hoisting devices of any approved form of hoisting and conveying machines.

To enable those skilled in the art to which my invention relates to make and use the same, I will now proceed to more fully ex-

plain my invention, referring by letters of reference to the accompanying drawings, which form part of this specification, and in which I have shown my invention carried out in that form which is the best known to me now, and in which I have so far successfully practiced my improvement.

In the drawings, Figure 1 is a sectional elevation showing in end view the trains of cars to be unloaded near a dock and my improved duplex platform-car contrivance arranged to operate in conjunction with said cars and with the hoisting and conveying machinery represented, either for the purpose of transferring the contents of the cars to the hold of a vessel alongside of the dock (as illustrated at Fig. 1,) or for transferring the contents of the car to a stock-pile on shore. Fig. 2 is a top or plan view on an enlarged scale, showing partially two of the cars of the trains seen at Fig. 1, and the improved duplex carrier or platform-car and hoisting-machine buckets as these parts will appear in practical operation. Fig. 3 is a sectional end view on the same scale with Fig. 2, and showing better the detail construction and some modifications of form in the duplex car contrivance as compared with what is shown at Fig. 1.

In the several figures the same part will be found designated by the same letter of reference.

Referring particularly now to Fig. 1, it will be seen that the cars of transportation are arranged so that two of them, A and B, are on parallel tracks near the edge of the dock, and are so far apart as to permit the placement between them of an intermediate track of comparatively wide gage, on which is mounted to travel freely a wide platform-car, the top or floor of which, C C, is properly secured to the frame-work *e* of the car in such a manner as to leave a narrow central opening or space, in which is mounted a smaller intermediate platform-car, D, the main portion of this duplex car contrivance being mounted so that its wheels *g* rest and travel on the tracks *f*, while the wheels *i* of the intermediate car, D, rest and travel upon tracks *j*, supported upon the lower portion of the frame-work *e* of the main portion of said duplex car contrivance.



1, 2, 4, &c., represent a series of buckets—such as are usually employed in hoisting and conveying machines of approved form—adapted to be charged from the cars A B, and to be then rolled from the side or main portions, C, of the duplex car contrivance onto the central portion, D, of said contrivance, and from thence lifted by the hook H of the hoisting and conveying machine I, by means of which machine and its connections the buckets and their contents are successively carried to and discharged over the hold of the vessel Q, for instance, in a manner to be presently more fully described, and as most clearly illustrated at Fig. 1 of the drawings, where M represents one of my patented tramways mounted on front and rear piers, N and O, and provided with a hinged extension or apron, P, by means of which latter the buckets run out over and discharge into the vessel Q, in a manner well understood by those familiar with the construction and operation of a hoisting and conveying machine.

The side portions, C C, of my novel platform contrivance are of such an elevation; it will be seen, that when a row of buckets, such as seen at 1 and 2, Fig. 3, are arranged along on each one, their upper forward edges will come on about a level with the top edges of the sides of the cars A and B to be unloaded, and the width of the platform contrivance is such that when these rows of buckets are placed in position at the elevation mentioned their upper forward edges will come so close to the upper edges of the cars A and B that the contents of said cars can most readily be shoveled directly into said buckets.

I propose to make the two side portions, C C, of the platform slightly inclined from their outer edges toward their inner portions, as best seen at Fig. 3, for the purpose of facilitating the rolling along of the buckets 1 and 2 backward from the portions C C onto the central portion, D, by which the said buckets are to be moved laterally. This inclination of the portions C C should be just sufficient to render the moving of the buckets 1 and 2 by hand on their rollers or caster-wheels very easy, without the liability of inducing any accidental rolling down of said buckets while the latter may be getting charged or filled from the cars A and B.

In the operation of my improved duplex platform or car contrivance, the contrivance is placed, as shown at Figs. 1 and 2, between the opposite cars of two trains, and the series of buckets 1, 2, 3, 4, &c., are supplied to the portions C C, in the positions represented at buckets 1, 2, 3, 6, and 7, ready for filling, by having the coal shoveled into them from the cars. As fast as a bucket shall have been loaded it is pushed backward or run down onto the central or intermediate car-platform, D, in the position illustrated at the bucket No. 4 in Fig. 2; and said intermediate portion, D, if occasion requires it, is pushed end-

wise to the proper position to permit one of the operatives to connect the catch-hook H of a hoisting-machine to the eye of the bail or handle of said bucket.

In practice the return bucket which descends with the hook H of the hoisting machine comes down onto the platform or intermediate car, D, in the position illustrated by the empty bucket No. 5 at Fig. 2, and the operative simply disengages the hook H from said empty bucket and engages it with the bail of the full bucket No. 4, said full bucket No. 4 and empty bucket No. 5 being such a short distance apart as to permit this operation of the hoisting-machine when it begins to pull up on the said bucket No. 4, operating usually, according to circumstances, to cause the intermediate car, D, to travel endwise a short distance until the full bucket No. 4 to be lifted shall have arrived at a position substantially vertically beneath the hoisting-machine. Immediately on the descent of the empty bucket No. 5 said bucket is pushed or rolled by one of the operatives to the first empty space on the proper side of the platform C C, ready to be refilled, and during the ascent and return of the full bucket No. 4 the intermediate car, D, will have been moved to the proper position for the reception of and will have had run onto it another filled bucket ready for the hoisting-machine when its hook H shall next again descend with bucket No. 4 in an empty condition, and so on, with a very economical disposition of operatives, a given number of buckets may be kept filled and expeditiously supplied to the hook H of the hoisting and conveying machine as rapidly as it may be possible to carry off and bring back the buckets.

In practicing my invention in the form in which I have so far put it into operation, I have been able with about from fifteen to eighteen men and with one transferring apparatus and one hoisting-machine to handle about one thousand tons of material in a day, transporting the same from the cars of the transportation-train to the hold of a vessel at the side of the dock, which accomplishment I believe is at least twice as much as has ever heretofore been done with the same amount of hand labor and power and according to the systems heretofore practiced.

Of course many modifications may be made in the details of construction, and modifications of arrangement may be adopted, without departing from the spirit of my invention, which consists, essentially, in the use of a portable platform adapted to hold one or more series of buckets in suitable proximity to the cars of one or two trains, as the case may be, and provided with means for shipping or moving the loaded buckets laterally, and running the empty buckets laterally to the right positions for proper placement for reloading, all substantially according to the plan herein set forth.



Having now so fully explained the nature and operation of my improved apparatus or contrivance that those skilled in the art can practice my invention, what I claim as new, 5 and desire to secure by Letters Patent, is—

1. A portable bucket-supporting platform adapted to be placed contiguous to one or intermediate of two cars, for the purpose of properly supporting one or more series of buckets 10 to be loaded from said car or cars, and provided with an intermediate or supplemental car-like device or platform, onto which the loaded buckets may be run, as specified, and adapted to effect the movement laterally of 15 said buckets, all substantially as and for the purposes set forth.

2. In a contrivance composed of a portable bucket-supporting platform provided with an intermediate car-like device adapted to move endwise within said platform, the arrangement of the bucket-supporting surfaces C C in an inclined position to facilitate the running of the loaded buckets from them onto the intermediate platform, D, substantially as hereinbefore set forth. 20

In witness whereof I have hereunto set my hand this 17th day of December, 1884. 25

ALEXANDER E. BROWN.

In presence of—

GOTTLIEB GENDER,  
SAML. GIBBONS.