(No Model.) 2 Sheets—Sheet 1.

A. E. BROWN.

ELEVATED TRAMWAY FOR HOISTING AND CONVEYING MACHINES.

No. 382,635. Patented May 8, 1888.

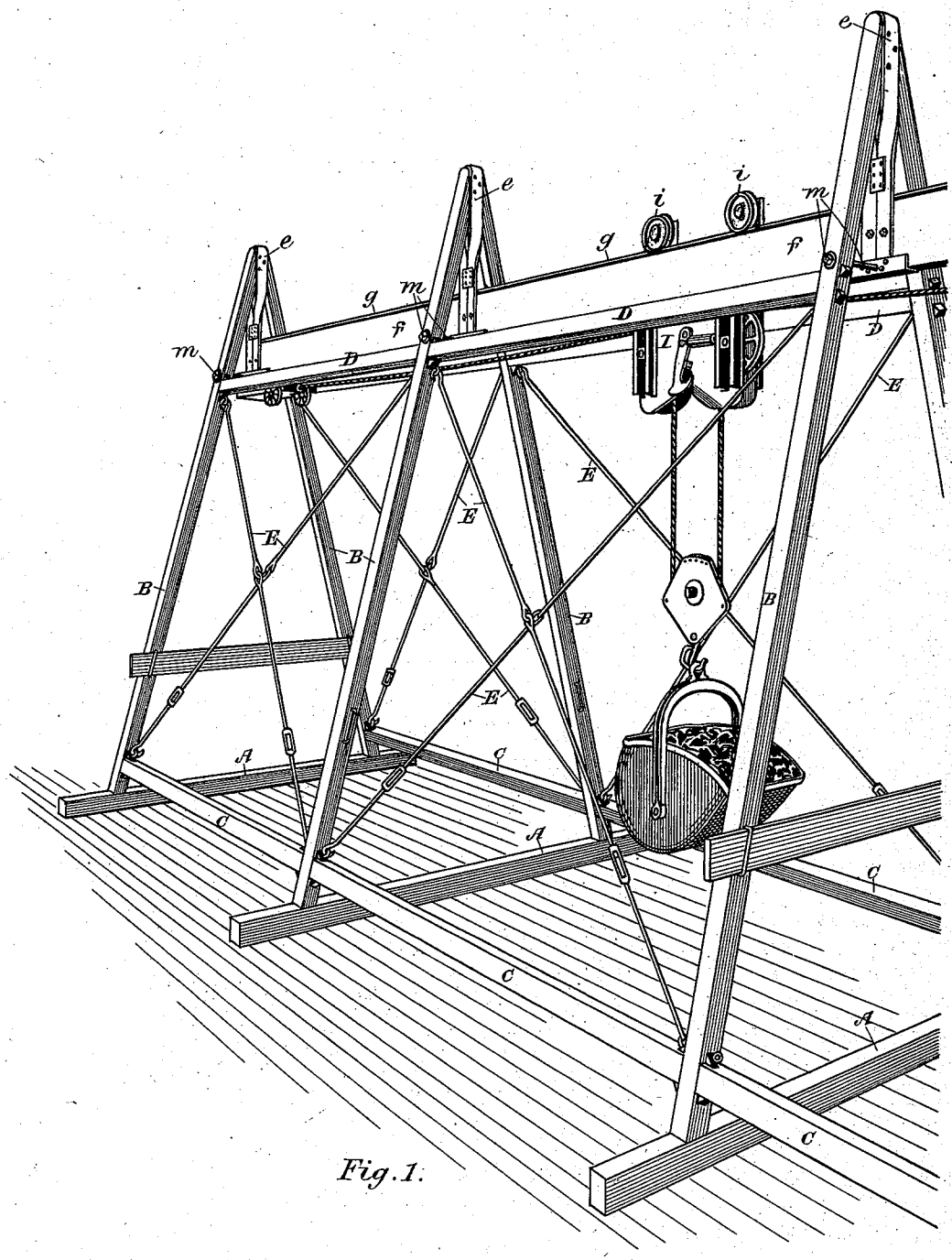


Fig. 1.

Witnesses
W. F. Graham.
H. Hansen.

Inventor
Alex. E. Brown.
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(No Model.) 2 Sheets—Sheet 2.

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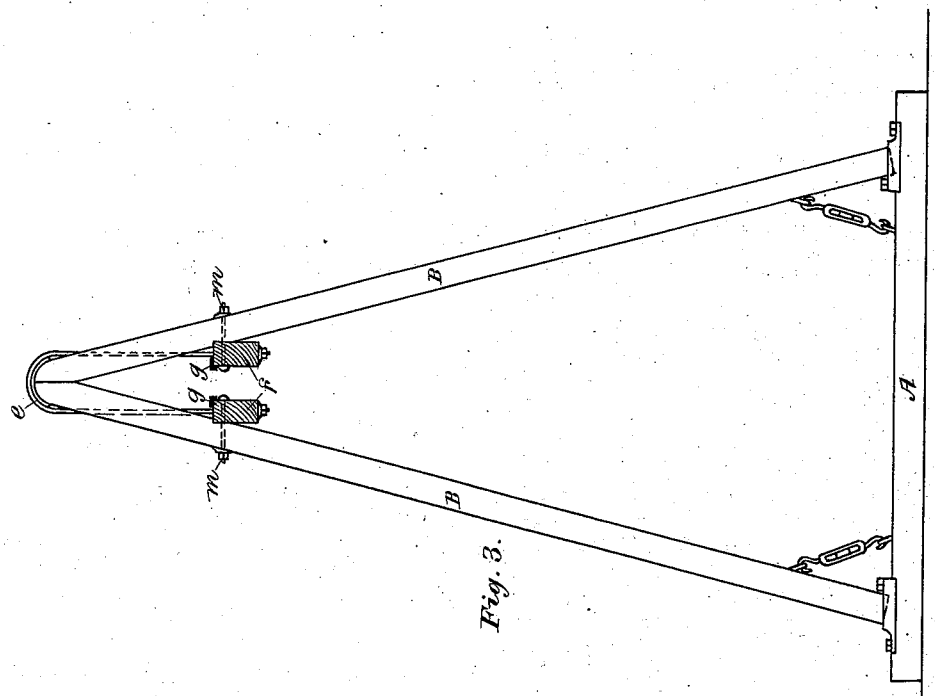


Fig. 3.

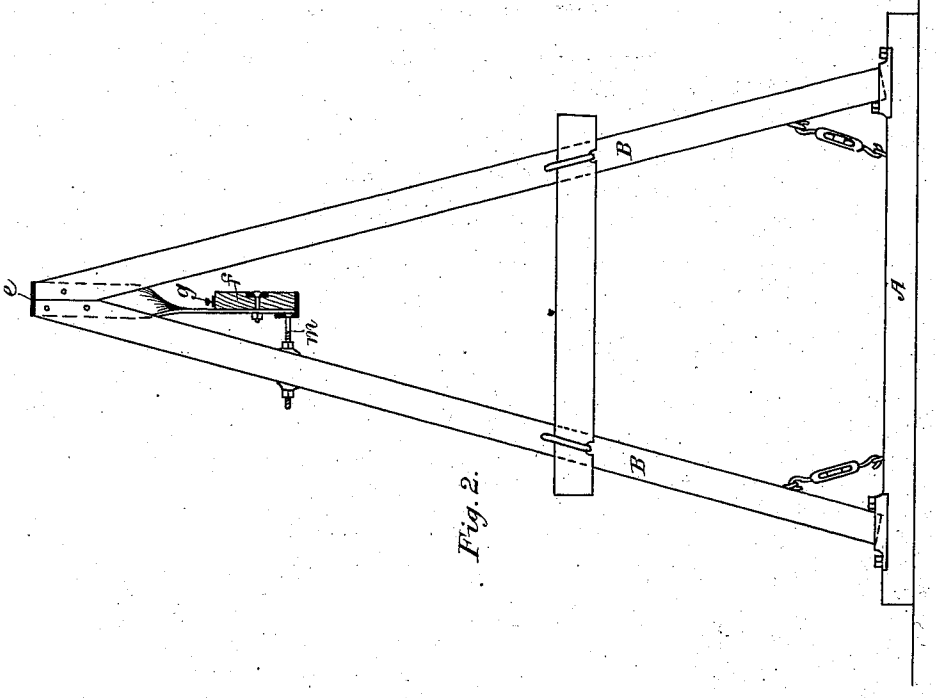


Fig. 2.

Witnesses.
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H. Hansen.

Inventor.
Alex. E. Brown.
By J. N. McIntire. Atty.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ALEXANDER E. BROWN, OF CLEVELAND, OHIO.

ELEVATED TRAMWAY FOR HOISTING AND CONVEYING MACHINES.

SPECIFICATION forming part of Letters Patent No. 382,635, dated May 8, 1888.

Application filed March 18, 1887. Serial No. 231,463. (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 Elevated Tramways for Hoisting and Conveying Machines, &c.; 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 elevated tramways, such as employed in various forms of hoisting and conveying machines, and has for its object to provide for use an elevated and suspended track-beam for the conveyer-machines to run on, which, together with its supporting frame-work, shall be simpler of construction, more durable, and stronger, with a given amount of material, than structures of the ordinary form for such purposes.

My invention consists, primarily, in an elevated tramway or railway composed of a series of A-frames and a track beam or beams located between the convergent upper portions of the legs of said A-frames, and suspender-like devices which depend from the apices of said A-frames and support the beam or beams of the track at their lower ends, all as will be hereinafter more fully explained, and as will be more particularly pointed out in the claims of this specification; and my invention consists, secondarily, in the combination, with the series of A-frames suitably connected and braced together, of a suspended tramway composed of two track stringers or beams, and suspender-like devices which support the said track-beams intermediately of the legs of the A-frames, and which depend from the apices of said frames, all in a manner to be hereinafter more fully explained, and as will be more particularly pointed out in the claims of this specification.

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

In the drawings, Figure 1 is a perspective view or portion of an elevated tramway—such as I have constructed and put into practical operation for the purposes of sewer excavation—made according to my invention. Fig. 2 is a vertical cross-section of the tramway. Fig. 3 is a similar sectional view showing a modification of my invention, in which I employ a track composed of two suspended track-beams, instead of one, composed of a single track-beam, as shown in the other two figures.

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

A are suitable sills or base-beams, upon which are erected and supported a series of A-frames, B.

C are a series of lower longitudinal brace beams or bars, and D a series of upper longitudinal braces that may be employed to give stiffness or rigidity to some or all of the sections of the structure, and E represents diagonally-arranged metallic tie rods or braces, which may be employed in some or all of the sections to strengthen the structure.

The convergent sticks or beams which compose each of the A-frames are beveled off at their adjacent sides, so as to come to a long bearing against each other, and near the upper end or apex of the frame and over the rounded upper ends of said sticks or beams is fitted a broad metallic suspender, *e*, that is composed of plate metal, and that is permanently secured to the upper portion of one of said sticks and temporarily bolted (by a preference) to the other of said sticks, so as to securely unite the jointed upper ends of the parts of the A-frame, all as clearly illustrated in the drawings. This plate-metal suspender *e* is twisted just a half-turn immediately below the joint at the upper ends of the two sticks of the A-frame, and is also slightly deflected to one side, so as to bring its lowermost depending portion in a plane transverse to the plane of the A-frame, and into such a position relatively to the two beams or sticks of said A-frame that a track beam or stringer, *f*, having one of its vertical sides placed against the lower portion of said suspender *e* and securely fastened thereto, will lie in a plane just about central between the obliquely-arranged legs or sticks of the A-frame.

The suspender *e* is by preference made with

its lower end bent at right angles, so as to form a foot piece or rest about equal in length to the width of the track-beam *f*, and said track-beam is arranged so as to be vertically supported by such bent portion of the metallic suspender.

The track-beam *f* is, as usual, provided with a suitable metallic rail, *g*, on its upper edge, upon which travel the wheels *i i* of any suitable hoisting and conveying machine—such as seen, for instance, at I.

In order to maintain the lower or depending end of the suspender *e* and the track-beam secured thereto rigidly in the proper position, I extend a metallic brace-rod, *m*, from the lower end of the metallic suspender *e* to that one of the sticks or legs of the A-frame that is on the side of the track-beam opposite to that against which hangs and travels a suspended machine, I. This brace-rod *m* preferably has its head countersunk in the metallic suspender *e*, and has its threaded end pass through a hole in one of the sticks of the A-frame, to which latter it is secured by suitable washer and nut.

At Fig. 3 I have shown a specific form of suspended tramway in which there are two track-beams and a double rail for the purpose of centrally suspending the machine or carriage designed to travel on said duplex tramway, and this form of track I consider preferable for many purposes. In this case the track-beams are suspended intermediate on the legs of the A-frames the same as in the form of machine shown at Figs. 1 and 2, and, as in said form of machine, the entire tramway is suspended from the apices of the A-frames, which is the essential or important feature of the primary part of my invention.

Of course many modifications and changes may be made in the arrangement and mode of connecting and bracing the series of A-frames, and various changes may be made in many of the details of construction of the entire apparatus without departing from the principle of my invention, so long as the tramway be combined with and suspended from the apices of the series of A-frames, by which principle of construction I am enabled to gain great strength, durability, and rigidity in the entire structure, with great lightness and with a maximum quantity of both wooden and metallic stock.

Having now so fully explained my invention that those skilled in the art to which it relates can understand and practice the same, either in the forms in which I have shown it carried out or in some other forms, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hoisting and conveying machine, the combination, with a series of A-frames, of, first, a suitable track or railway located or arranged intermediately of the legs of said A-frames, and, second, a series of vertically-depending metallic straps or suspender-like devices, which are secured at their upper ends to the apices of the said A-frames, and which are attached at their lower ends to the track or railway, so as to securely support the latter, the whole constructed and operating in substantially the manner hereinbefore set forth.

2. In combination with the series of A-frames suitably braced and connected together, a tramway composed of two track stringers or beams, and a series of suspender-like devices which depend from the apices of the said frames and sustain the duplex track or tramway intermediately of the legs of said frames, all in the manner and for the purpose hereinbefore described.

In witness whereof I have hereunto set my hand this 31st day of August, 1886.

ALEXANDER E. BROWN.

In presence of—
E. T. SCOVILL,
CHAS. W. KELLY.