

(No Model.)

2 Sheets—Sheet 1.

A. J. SHAW.
HOISTING MACHINERY.

No. 528,619.

Patented Nov. 6, 1894.

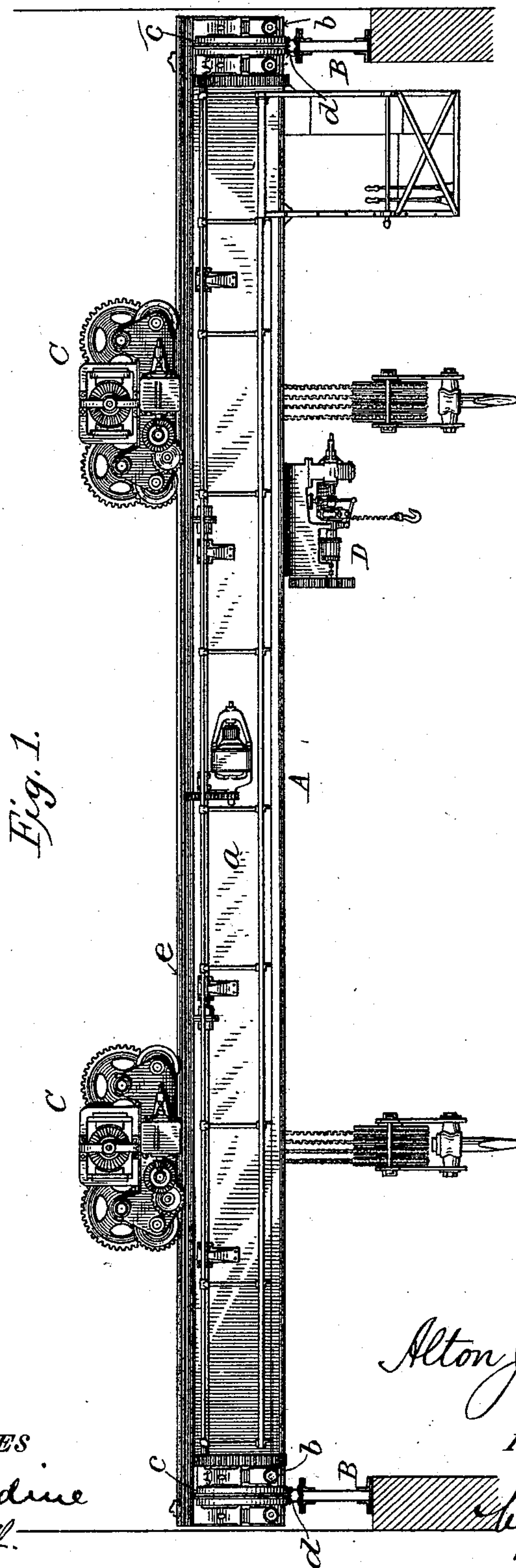


Fig. 1.

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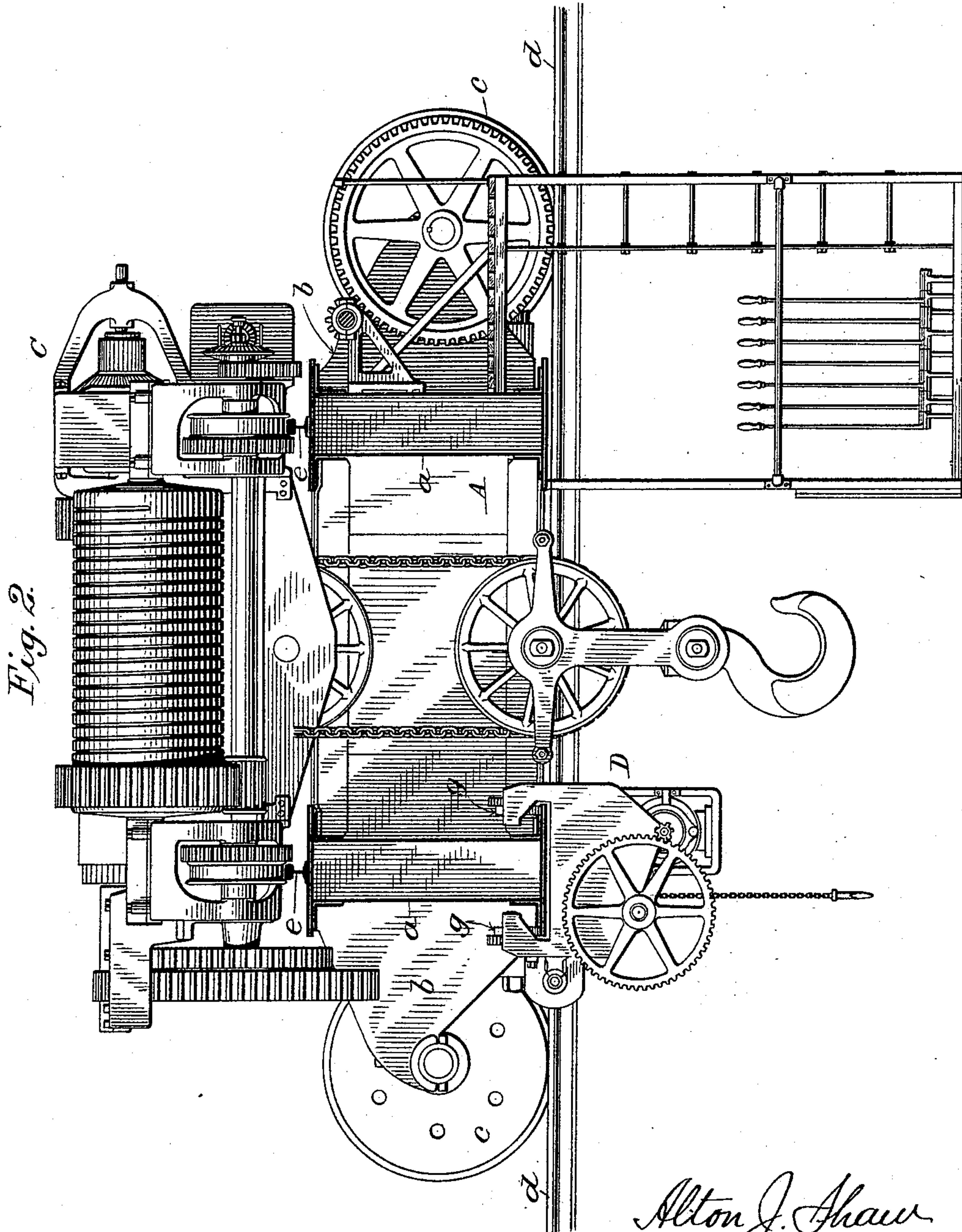
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2 Sheets—Sheet 2.

A. J. SHAW.
HOISTING MACHINERY.

No. 528,619.

Patented Nov. 6, 1894.



WITNESSES
 H. C. Burdine
 C. B. Bull.

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UNITED STATES PATENT OFFICE.

ALTON J. SHAW, OF MUSKEGON, MICHIGAN, ASSIGNOR TO THE SHAW
ELECTRIC CRANE COMPANY, OF SAME PLACE.

HOISTING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 528,619, dated November 6, 1894.

Application filed June 7, 1894. Serial No. 513,850. (No model.)

To all whom it may concern:

Be it known that I, ALTON J. SHAW, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Hoisting Machinery, of which the following is a specification.

My invention relates to hoisting machinery, and consists in combining with the main bridge or girder and the main trolley, a second trolley adapted and arranged to travel freely from end to end of the bridge past the main trolley and past the hoisting chain thereof, whenever necessary.

I do not in this application claim the broad idea of arranging one trolley on a lower plane than another, so that one may pass beneath another wholly or partially, as that is set forth in another application filed in my name on the 7th day of June 1894, and designated by Serial No. 513,846, but the present invention is distinguishable from that set forth in said other application, in that there is no impedance of the travel of the lower trolley by the hoisting chain or gear of the upper trolley.

In the accompanying drawings—Figure 1 is a side elevation; and Fig. 2, a cross section through the bridge, showing one of the main trolleys and the supplemental or whip trolley.

A indicates the main bridge, which is here represented as constructed of two strong box girders *a*, connected at the ends of the bridge by suitable truck boxes or frames *b*, here represented as provided with track wheels *c* to travel upon rails *d* of the main runway B. The construction of the bridge may vary within ordinary limits, and it may be arranged to travel laterally or be fixed according to the place and purpose for which it is designed.

C indicates a main trolley, of which there may be one or two, as preferred. The trolley C traverses rails *e* on the top plates of the main girders *a*, while its hoisting chain and running block pass down between the main girders *a*.

The manner of constructing and driving the bridge and the trolley may vary as desired, any ordinary system being adopted as may be preferred, or as circumstances shall suggest.

The drawings represent an electric crane

with independent electric motors for all the various movements, but this is merely a type, and is in no sense obligatory.

D indicates a supplemental trolley designed for light loads and quick movements, and intended particularly for tipping ladles, actuating tongs, and doing various other work which it is not desired to throw upon the main trolley or trolleys. The trolley D is made with a frame having an opening in its upper part of essentially I-shape or dovetail form, and in the upwardly projecting arms are placed rollers *g* which traverse the upper face of the lower plates of one of the main box girders *a*, or it may be the lower plate or flange of an I beam, a single-plate girder or the like. The rollers *g* carry the weight of the trolley D, which being suspended from and directly beneath the girder *a*, travels in a vertical plane to one side of that in which the hoisting chains and running block of the main trolley C travel. In the drawings I have represented this supplemental trolley D as provided with an electric motor for its propulsion, but here again such representation is merely for purposes of illustration, and is in no sense invariable.

The great advantage of this construction resides in the fact that the small or supplemental trolley may at all times pass to either side of the main trolley relatively to the direction in which the trolley travels, without colliding with the main hoisting chains. This enables the supplemental trolley, with its light or whip hoist, to operate at any desired point at any moment, regardless entirely of the position of the main trolley, its load, or hoisting chains; whereas but for this arrangement out of alignment with the main trolley or trolleys, the most that could be accomplished would be to bring the hoisting chain of the supplemental trolley close to the main hoisting chain on one side, unless such main hoisting chain should be out of action and raised entirely above the top of the lower trolley.

Having thus described my invention, what I claim is—

1. In combination with a bridge or support, two trolleys carried thereby, one below the other and at one side of the bridge, whereby

the lower trolley is adapted to traverse the length of the bridge without colliding with the hoisting chains of the upper trolley.

2. In combination with a bridge or support,
5 a trolley mounted thereon and having its hoisting chains adapted to fall between the two main girders of the bridge, and a second trolley carried by one of the girders of said bridge at a point below the main trolley, sub-
10 stantially as shown and described, whereby it is adapted to pass the hoisting chains of the main trolley in traversing the length of the bridge.

3. In combination with a bridge or support,
15 a main trolley mounted upon said bridge, and a supplemental trolley D suspended from one of the girders of said bridge, substantially as shown.

4. In combination with bridge or support A
20 having a trolley C thereon, a trolley D having its frame adapted to clasp or overhang

the lower plates of the bridge girder, and provided with rollers to traverse the upper surface of said plates.

5. In combination with bridge or support A 25
having a trolley C mounted thereon, a trolley D, having arms extending upward beside the lower plates of the bridge girder provided with rollers to traverse the upper surface of
30 said plates.

6. In combination with a bridge or support,
two independent trolleys adapted to traverse
the bridge or support in different vertical
planes and each provided with hoisting mech-
anism. 35

In witness whereof I hereunto set my hand in
the presence of two witnesses. 35

ALTON J. SHAW.

Witnesses:

F. W. BARCOCK,
T. C. AKIN.