

Fig. 1.

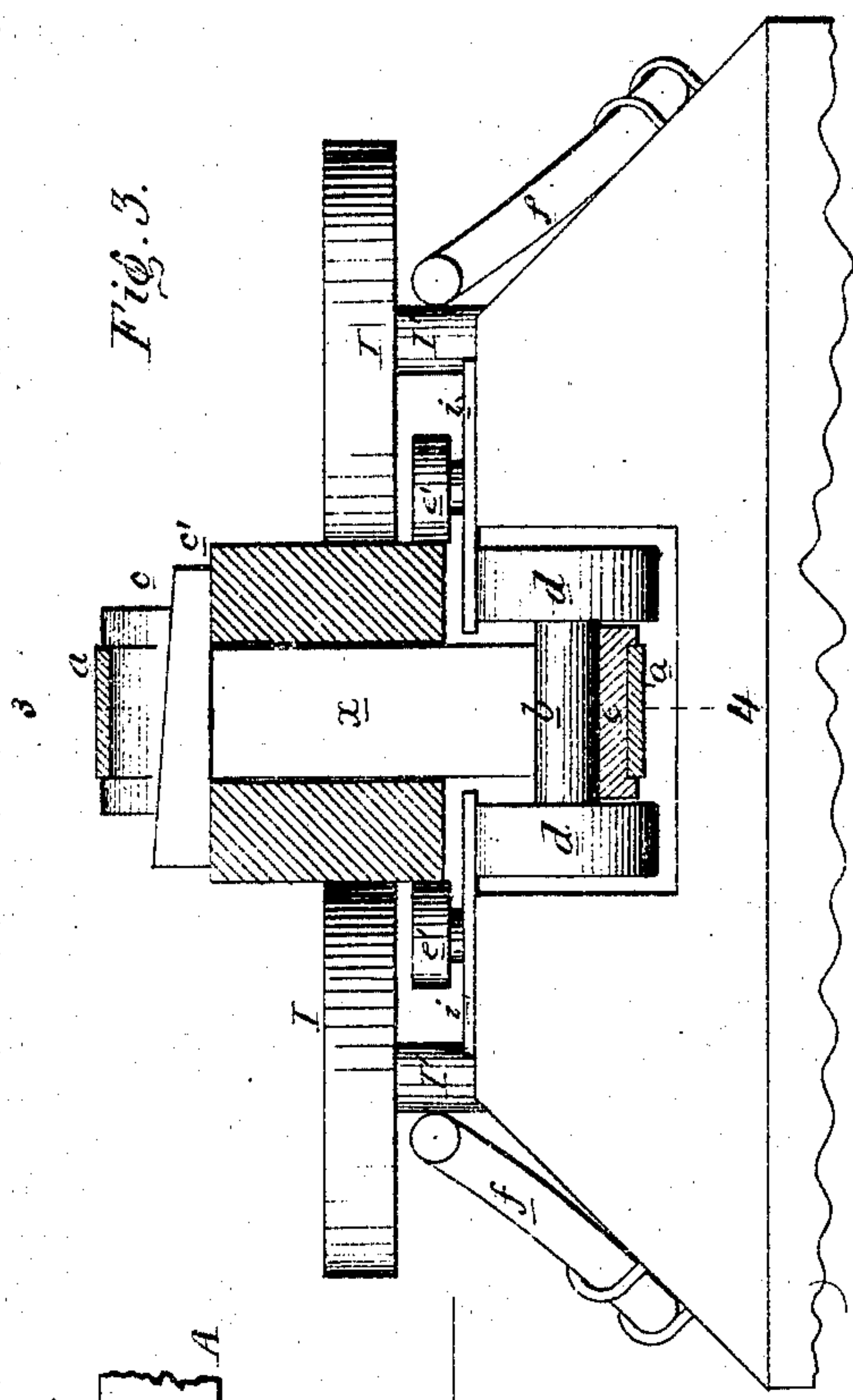


Fig. 3.

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J.B. Newbrough
Elevated Railway
PATENTED JUL 4 1871

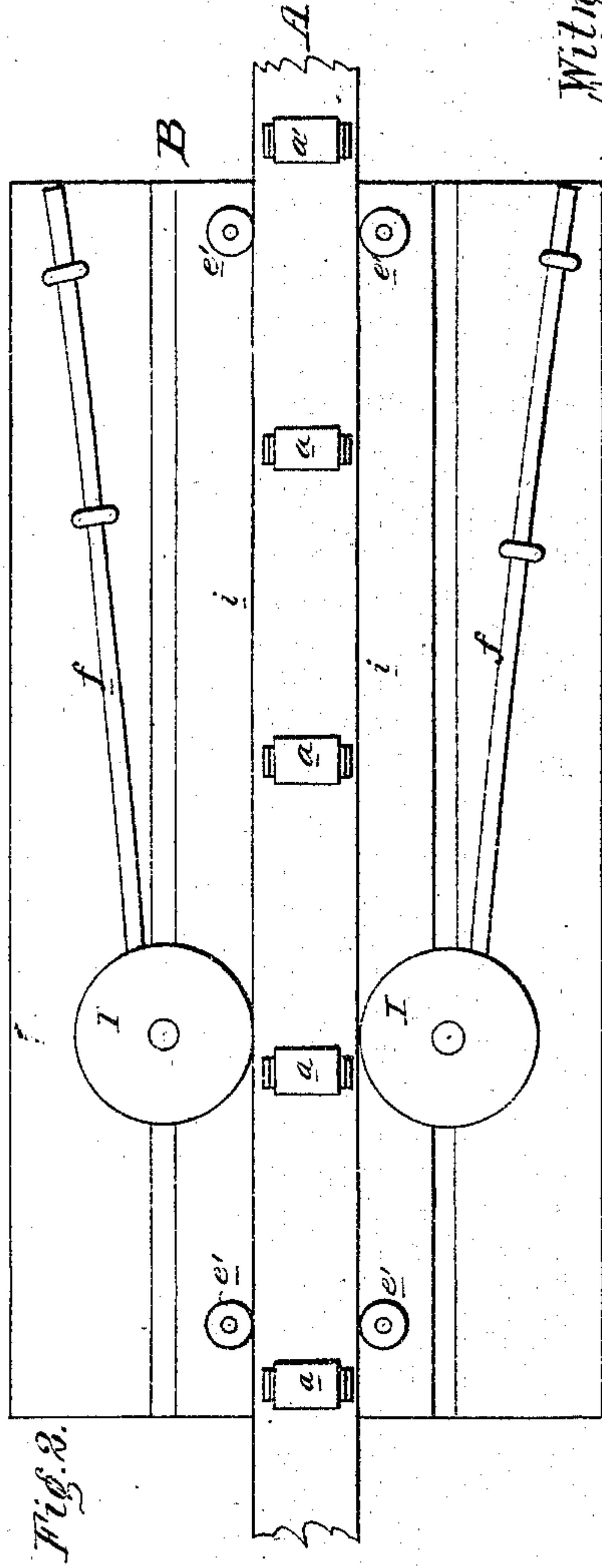


Fig. 2.

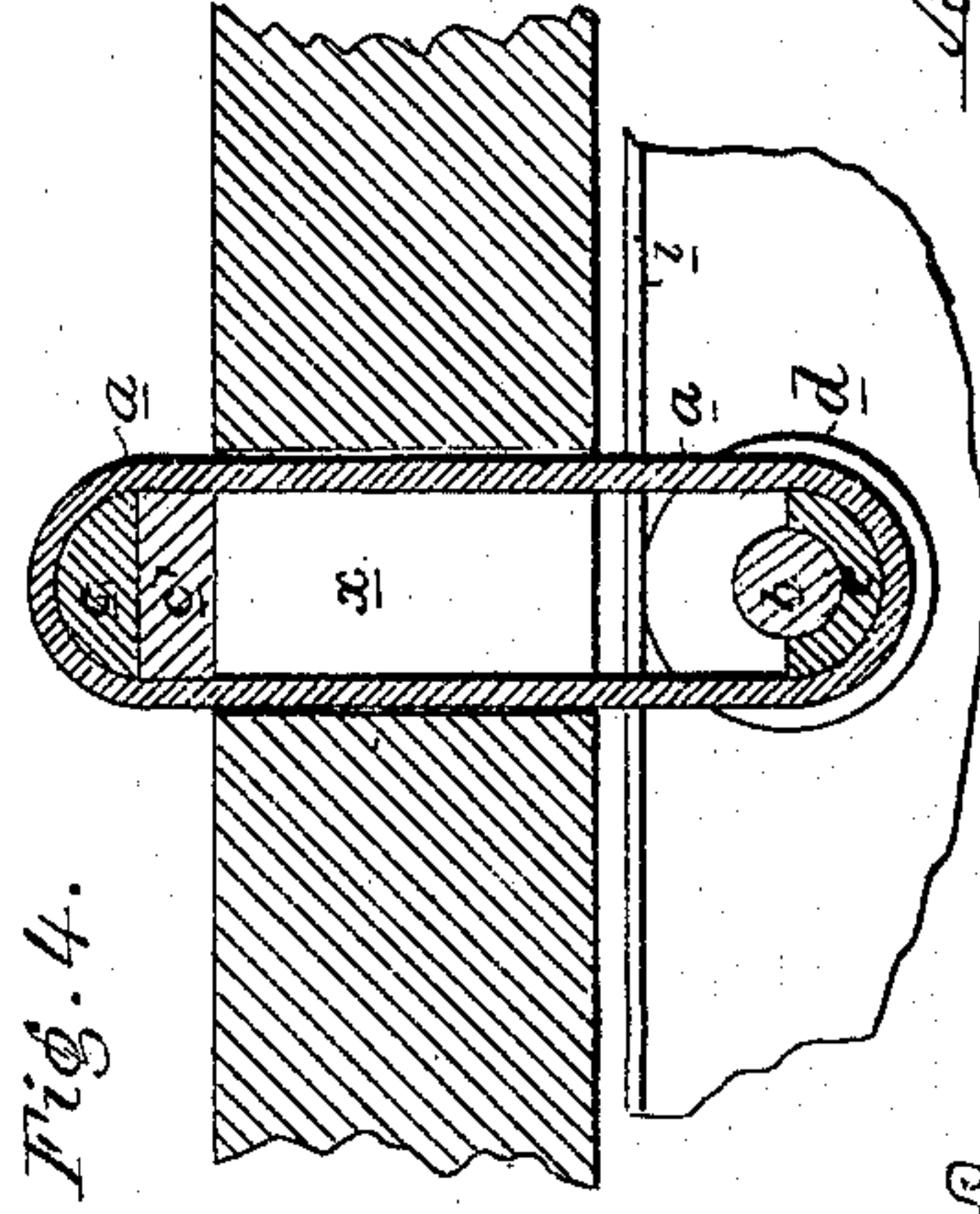


Fig. 4.

Witnessed
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UNITED STATES PATENT OFFICE.

JOHN B. NEWBROUGH, OF NEW YORK, N. Y.

IMPROVEMENT IN ELEVATED RAILWAYS.

Specification forming part of Letters Patent No. 116,740, dated July 4, 1871.

To all whom it may concern:

Be it known that I, JOHN B. NEWBROUGH, of New York, county of New York, State of New York, have invented an Improvement in Elevated Railways, of which the following is a specification:

My invention relates to certain improvements in elevated railways, too fully described hereafter to need preliminary explanation, whereby the expense in constructing and repairing the permanent way is greatly reduced, the cars or trucks are prevented from leaving the track, friction is diminished, and driving power economized.

Figure 1 is a side view of part of the railway and a car for traversing the same; Fig. 2, a plan view; Fig. 3, a section on the line 1 2, Fig. 1, looking in the direction of the arrow, and drawn to an enlarged scale; and Fig. 4, a section on the line 3 4, Fig. 3.

A is the beam, which may be connected to cross-ties resting on vertical pillows, or may be suspended in any other suitable manner at such a distance from the ground (sufficient to allow the passage of a car beneath it) as circumstances may require. Through recesses *x* at intervals in the beam extend metal straps *a*, which, in the present instance, are suspended from detachable gibs *c* and keys *c'* passing through the upper ends of the straps and bearing on the upper face of the beam. In the lower end of each strap turns a short shaft, *b*, which may bear directly on the strap or on a detachable bearing, *e*, and on each end of the said shaft is a wheel, *d*. The beam A, its wheels *d*, and the structure supporting the beam, constitute the roadway, which guides and supports the car or vehicle B. From the top of each vehicle project two flanges, *i i*, so arranged as to extend over and bear upon the wheels *d*, as shown in Figs. 1 and 3, and, on studs or spindles projecting from the top of the car, turn wheels *e' e'*, which bear against the sides of the beam and preserve the center of the car directly in a line below the center of the beam. The car thus suspended may be propelled in either direction in any suitable manner by any available power. I prefer, however, to employ

friction driving-wheels I I, pressed against the opposite sides of the beam by springs *f f*, or otherwise, and secured to vertical shafts I' extending into the vehicle. These shafts may be provided with cranks so as to be driven by persons in the car, or they may be geared to and driven by a steam or other engine in the car.

It will be seen that a roadway constructed for guiding and supporting a suspended car, as above described, is extremely simple in its construction; that no continuous, expensive, and heavy rails are required, and that, should any of the straps or wheels *d* become worn or injured, they can be quickly removed (after withdrawing the key and wedges) and replaced. The wheels may also be adjusted vertically by means of the keys or equivalent devices.

Although I have illustrated and described means for connecting the wheels *d* to the beam A and for adjusting them, it will be apparent that other means may be employed. It will also be seen that the beam A may be of wood or metal, and of any suitable construction.

I claim—

1. A series of rollers or wheels, *d*, arranged substantially as described, so as to afford a bearing for flanges extending over said rollers from the top of a suspended car or truck.

2. The combination, with a beam, A, of straps *a*, or their equivalents, suspended from the beam and carrying the rollers *d d*, as set forth.

3. The combination, with the said straps and beam, of keys and wedges *c' c'* or other retaining and adjusting devices, as and for the purpose specified.

4. The car B, with its flanges *i i* arranged to traverse the rollers *d*, substantially as described.

5. The combination of a car, suspended from a beam, A, and driving-pulley or pulleys I I bearing against the beam A, and operating substantially as set forth.

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

Witnesses: JOHN B. NEWBROUGH.
S. B. GOODALE,
GEO. IRVING BANKS.