

Improvement in Draw-Bridges.

Patented July 16, 1872.

Fig. 1.

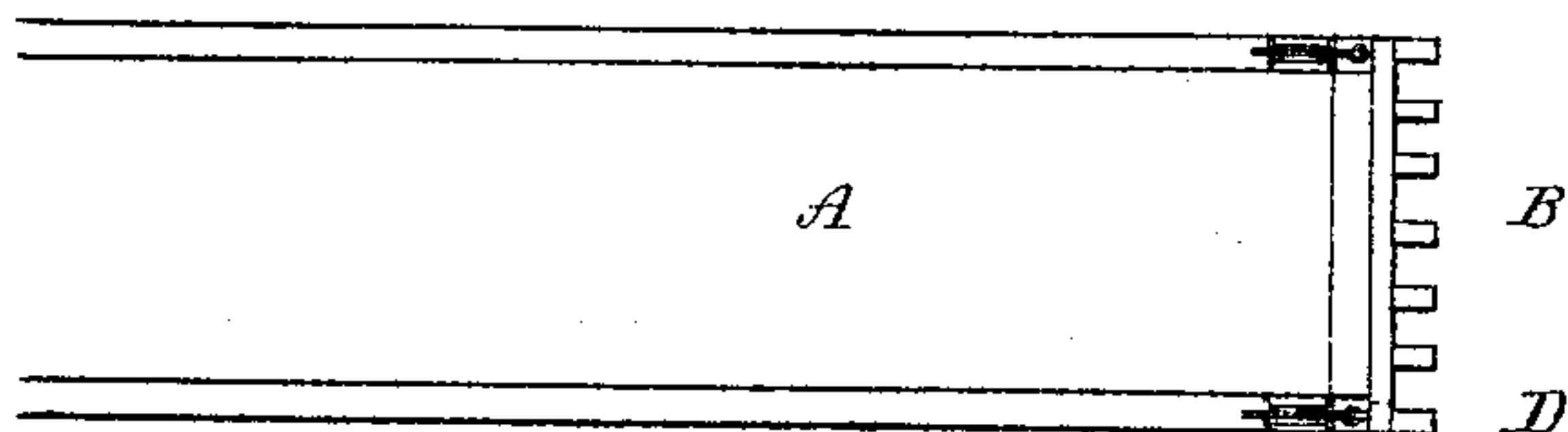


Fig. 2.

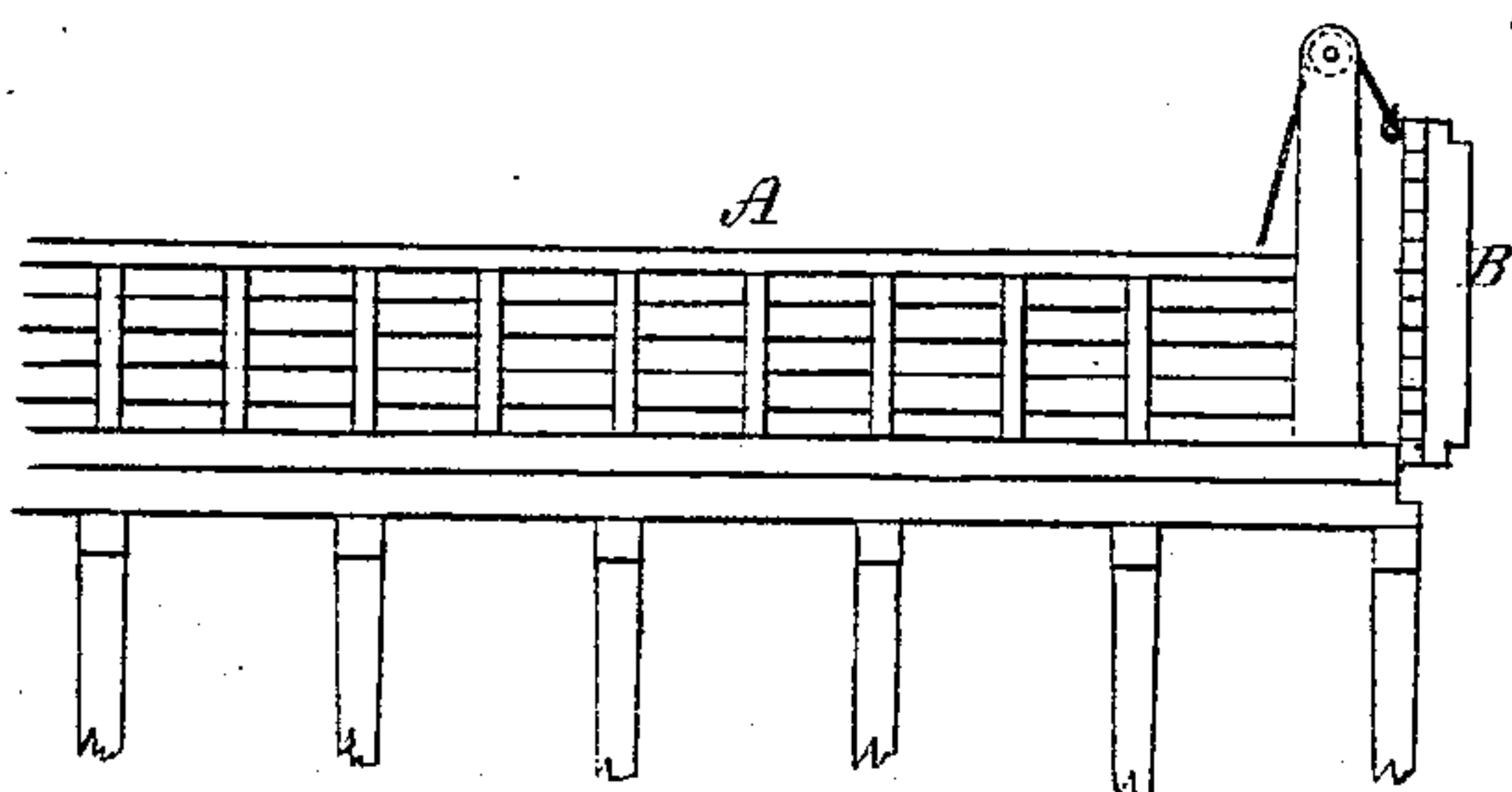


Fig 3.

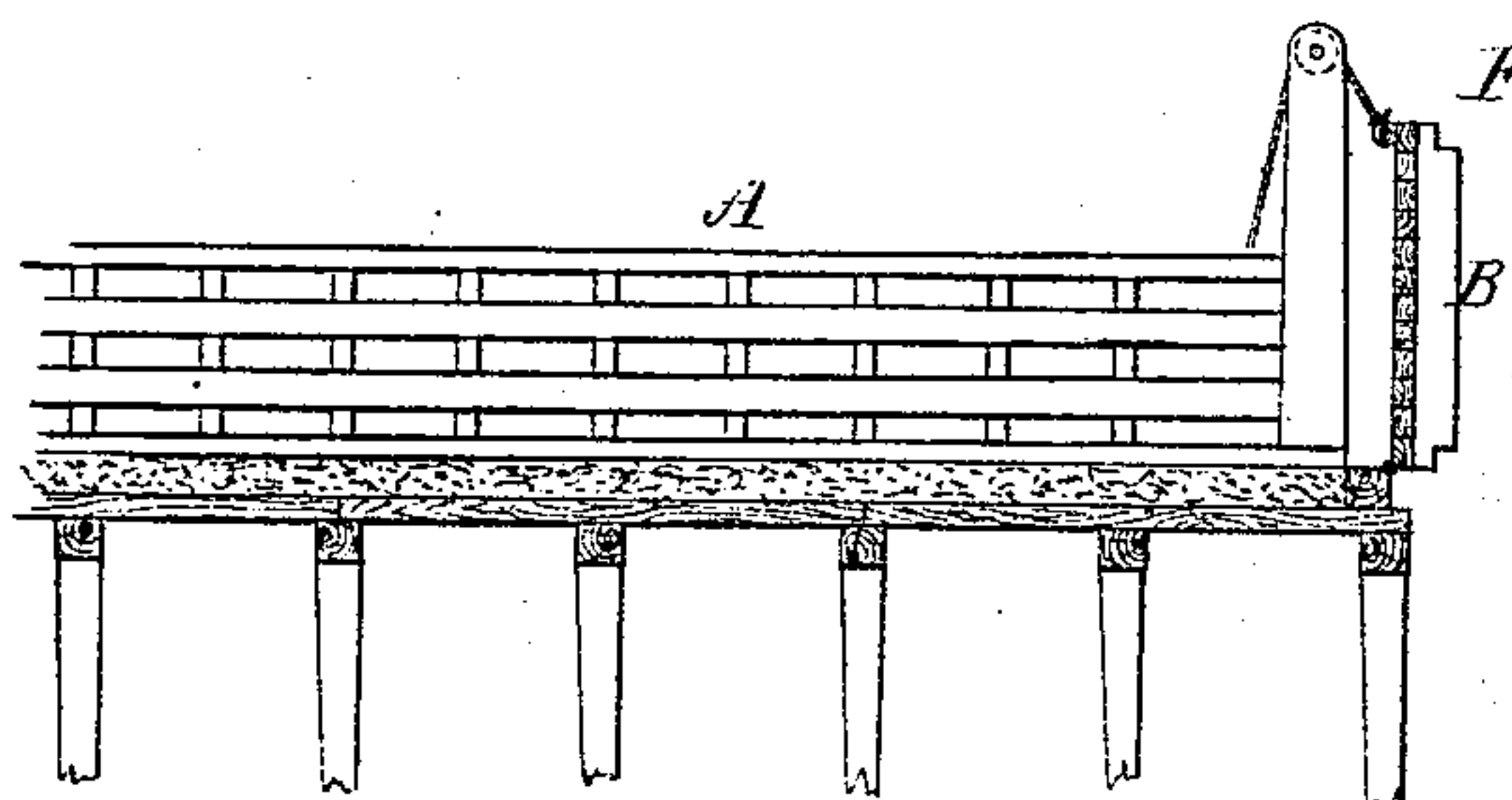
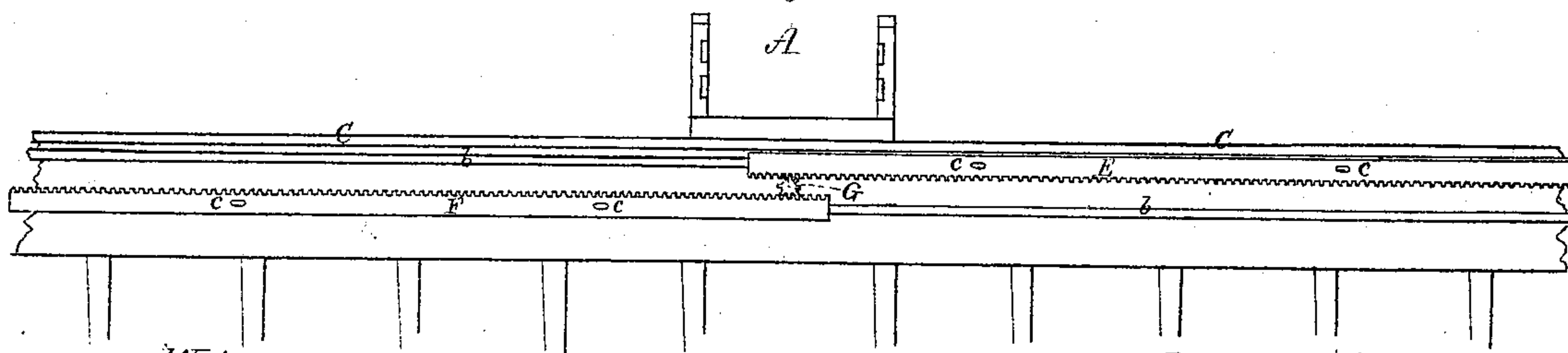


Fig. 4.



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IMPROVEMENT IN DRAW-BRIDGES.

Specification forming part of Letters Patent No. 129,638, dated July 16, 1872.

To all persons to whom these presents may come:

Be it known that I, HENRY WHITNEY, of East Cambridge, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Draw-Bridges; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, Fig. 2 a side elevation, Fig. 3 a longitudinal section, and Fig. 4 a transverse section of a draw-bridge with my invention applied thereto; the object of such being to facilitate the passage of a navigable vessel through the bridge and preserve her in proper course while going through.

In carrying out my invention I combine with the draw-bridge one rack or a pair of racks and an operative pinion, arranged as shown in the accompanying drawing, in which A denotes the bridge; B, the draw; C C, the lateral piers of the draw opening or passage D, such piers being arranged in line with each other and projected from opposite sides of the bridge. The two racks are represented at E F, arranged on the inner side of the draw-opening and the piers, and to engage with a pinion or gear, G, fixed upon a horizontal shaft, H, provided, or to be provided, with suitable mechanism for revolving it in either direction. Each rack is supported on one of two horizontal rails, *b b*, upon which it is to be capable of sliding freely, each of the rails having a dovetail or such other form, in transverse section, as will hold the rack in a manner to prevent it from slipping laterally off the rail. Furthermore, there are to each of the racks two or other suitable number of cleats,

c c, or other proper equivalents, for fastening or aiding in securing a vessel, at or near its bow and stern, to the rack. On arriving alongside of one of the piers a vessel is to be fastened to the next adjacent rack, which, after the draw may have been raised, is to be put in movement rectilinearly, so as to carry the vessel through or partially through the bridge, as may be required. One of the racks may be employed to effect the partial passage, the completion of it being accomplished by the other.

With a powerful mechanism of such kind applied to a draw-bridge the passage of a vessel through the draw-opening of the bridge may be expeditiously effected, and the vessel during the time be prevented from being swayed by the current or wind against the sides of the draw-opening.

An endless chain moving on rollers or gears may be substituted for the two racks and the pinion, provided the chain be duly and properly supported both laterally and longitudinally, such chain being furnished with cleats or necessary means of or appendages for attaching a vessel to it. A single rack will often suffice in place of two.

What I claim as my invention is—

The cleated rack or racks and pinion, or the equivalent thereof, arranged and combined with a draw-bridge and its piers, substantially in manner and to operate as and for the purpose specified.

HENRY WHITNEY.

Witnesses:

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