

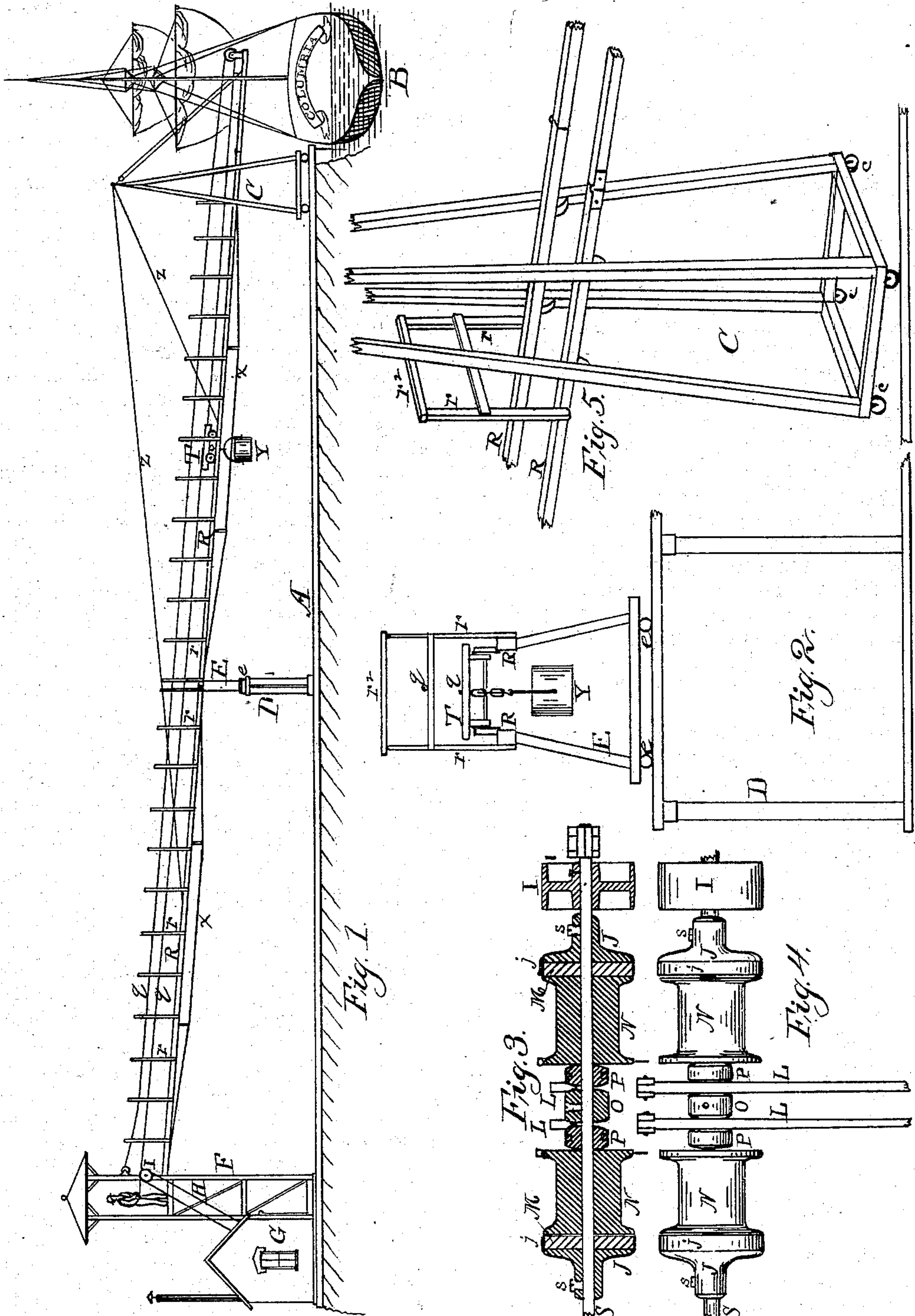
(No Model.)

O. SHERWOOD.

VESSEL UNLOADING APPARATUS.

No. 274,983.

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VESSEL-UNLOADING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 274,983, dated April 3, 1883.

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To all whom it may concern:

Be it known that I, ORSAMUS SHERWOOD, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful
5 Improvements in Unloading Apparatus, of which the following is a specification.

This invention relates to apparatus for the unloading of vessels; and it consists of an adjustable truss-tramway for conveying a truck
10 carrying a bucket back and forth, and provided with a shaft at upper end of said tramway, having rope-drums and friction-clutch mechanism of peculiar construction, operated by suitable power and manipulated by an operator in such
15 a manner that greatly facilitates the work of handling and unloading boats or vessels, the said mechanism being constructed, combined, and operating as hereinafter fully described and claimed.

20 In the accompanying drawings, Figure 1 is a side elevation of my apparatus as seen in working order. Fig. 2 is a cross-section of truss and its support. Fig. 3 is a sectional view of the driving-shaft and its accompanying
25 clutch and drum mechanism. Fig. 4 is a top or plan view of same. Fig. 5 is a view of the tower-support of the truss-tramway at its lower end.

30 A represents a dock for the storage of ores or coal. B represents a vessel lying at said dock, from which the load is being taken by my apparatus.

C is a tower, made of timber, for supporting the end of the truss-tramway at the edge of
35 the dock. It has a suitable base-frame, and is provided with rollers, by which it may be shifted for adjustment to suit varying circumstances. Intermediate between said dock-line and the power end of the tramway is made a fixed
40 frame-work support, D, upon which an intermediate support, E, for said tramway rests, and having rollers *e*, by which the tramway may be shifted for adjustment. At any required distance away from the said dock-line is
45 built a permanent frame-work, F, for supporting the upper end of the tramway, and is provided with the operating-shaft and its accompanying mechanism. The said frame-work F is made high enough to support the tramway
50 at a sufficient height above the dock to allow for the deposit of large quantities of ore, and the said frame-work may be any required

length along said dock, and carrying a long shaft—say several hundred feet—to provide for
any required number of tramways to be connected with it, and it is roofed over for protection of the machinery and the operators. At
55 one end of said frame-work support F is located a house, G, having an engine connected by belt H to a driving-pulley, I, on the shaft. 60

The mechanism on the shaft I construct as follows:

J J are metal disks, secured to the shaft S by set-screws *s s*, and have a deep flange or rim, *j*, in which is secured a wooden disk, M. 65

N N are two drums or spools, made of metal, upon which the ropes or cord *q q* are wound in drawing the truck T back and forth. These drums are placed loosely on the shaft, so that the shaft may revolve without revolving them
70 with it, except when required, and they are placed a sufficient distance apart for the clutching-levers L L and their blocks to be attached.

O is a small block, secured to the shaft S by set-screw, and P P are two similar blocks, 75 placed loosely on the shaft between said block O and the drums.

L L are two levers, having bevel sides, which lie between the blocks O and P P, being fulcrumed at their ends to a support at one side
80 of the shaft, while their other ends are extended into the inclosure of the frame-work F in convenient position for handling by the operator. The sides of the said blocks O and P
85 P are beveled also, so that pressing down on the levers crowds the blocks P against the ends of the drums, and this crowds the drums against the wooden disks, so the friction of the broad-faced wooden disk, bearing against the
90 drum, causes said drum to revolve with them.

The trusses are made of two rails, R R, without cross-bars between them, but have a series of upright side posts, *r r*, connected by cross-bars *r²* part way up and a cross-bar at their
95 tops, the object being to leave the space between the rails R R unobstructed for the passage of the car or truck T and its suspended bucket Y. The trusses are strengthened by brace-irons *x x*, and from the top of the tower
100 guys *z z* are stretched to the central parts of the trusses, for steadying the tower and bracing the trusses. Hinged to lower end of lower truss is an arm or extension, which reaches over the vessel to bring the truck and bucket over

the hatchway, and the extremity of said extension is provided with a wheel, over which the return-cord attached to the truck plays. A rope and sheaves are attached to outer end of said extension and top of the tower for the purpose of raising said extension when desired. The rope which draws the truck upward passes through a sheave in the truck, and also through a sheave with a hook holding the bucket. When the truck reaches the lowest point on the tramway, the paying out of the rope still further lets the bucket down into the hatchway of the vessel.

The operator manages this apparatus in a very easy and simple manner by means of the levers. To draw the truck upward the lever to the right is pressed down. This clutches the drum and causes it to revolve, drawing and winding up the rope, while the other drum, being loose, allows the other rope to be unwound. To return the truck the left-hand lever is pressed down and the right-hand one released. Thus the return-rope draws the truck back down again by the winding up on its drum, while the other, being loose, allows the rope to unwind. Thus by alternately clutching the

drums the one draws on its rope while the other pays it out, and vice versa.

A suitable brake, to be operated by the foot of the operator, is employed to prevent the too rapid unwinding of the rope from the loose drum.

Having described my invention, I claim—

1. The metal disks J J, having the fixed wooden disks M M, the loose drums N N, fixed block O and loose blocks P P, and lever L L, in combination with shaft S, as shown and described.

2. The truss-tramway consisting of the rails R R, upright posts r and cross-bars r^2 , brace iron rods $x x$, and the transversely adjustable support E, running on fixed support D, as shown and described.

3. The tower C, provided with rollers $c c$, for supporting the lower end of truss-tramway, and provided with the ropes and sheaves, in combination with the hinged extension of the truss, as and for the purpose specified.

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