

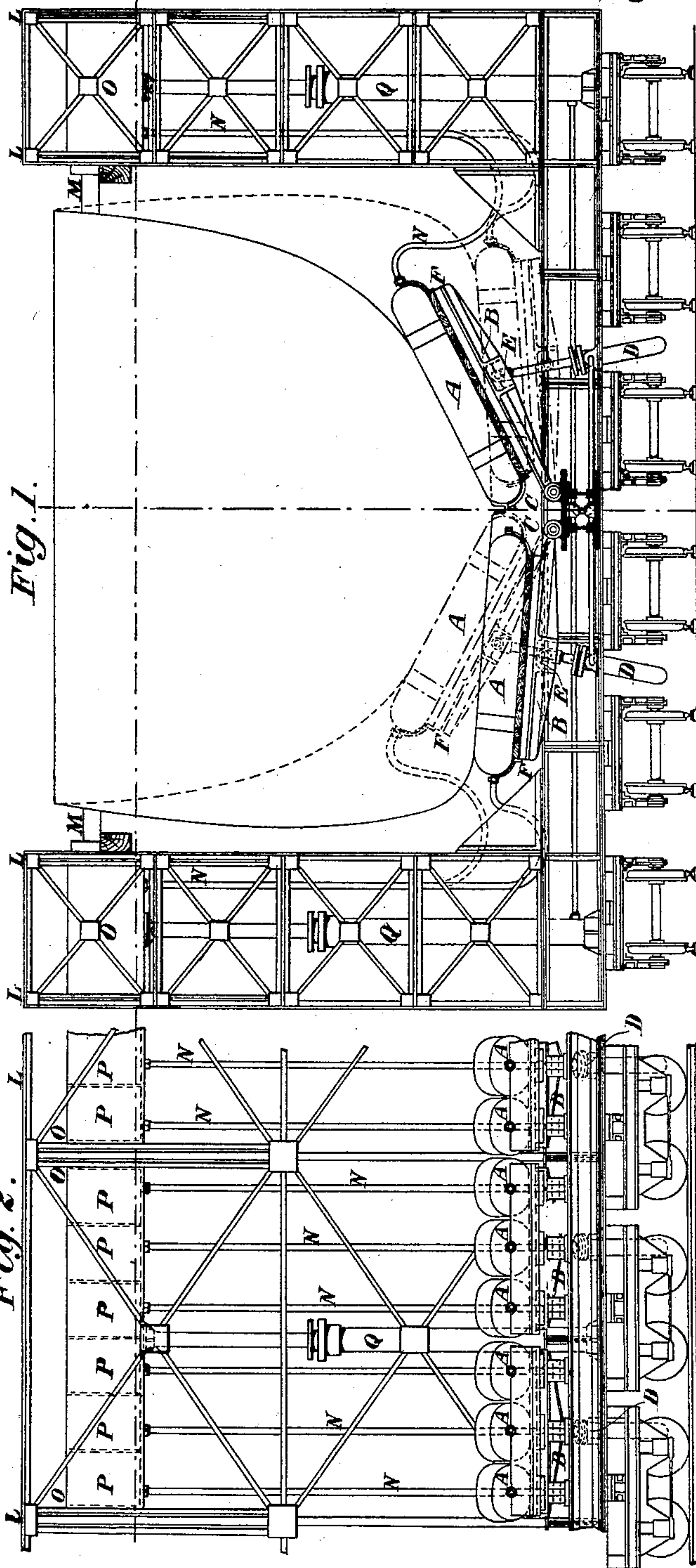
(No Model.)

2 Sheets—Sheet 1.

W. R. KINIPPLE.
OVERLAND SHIP CONVEYANCE.

No. 481,405.

Patented Aug. 23, 1892.



Attest
Geo. T. Smallwood.
Rev. Lewis.

Inventor:
Walter Robert Kinipple
by Folger & Dumas
his attorneys.

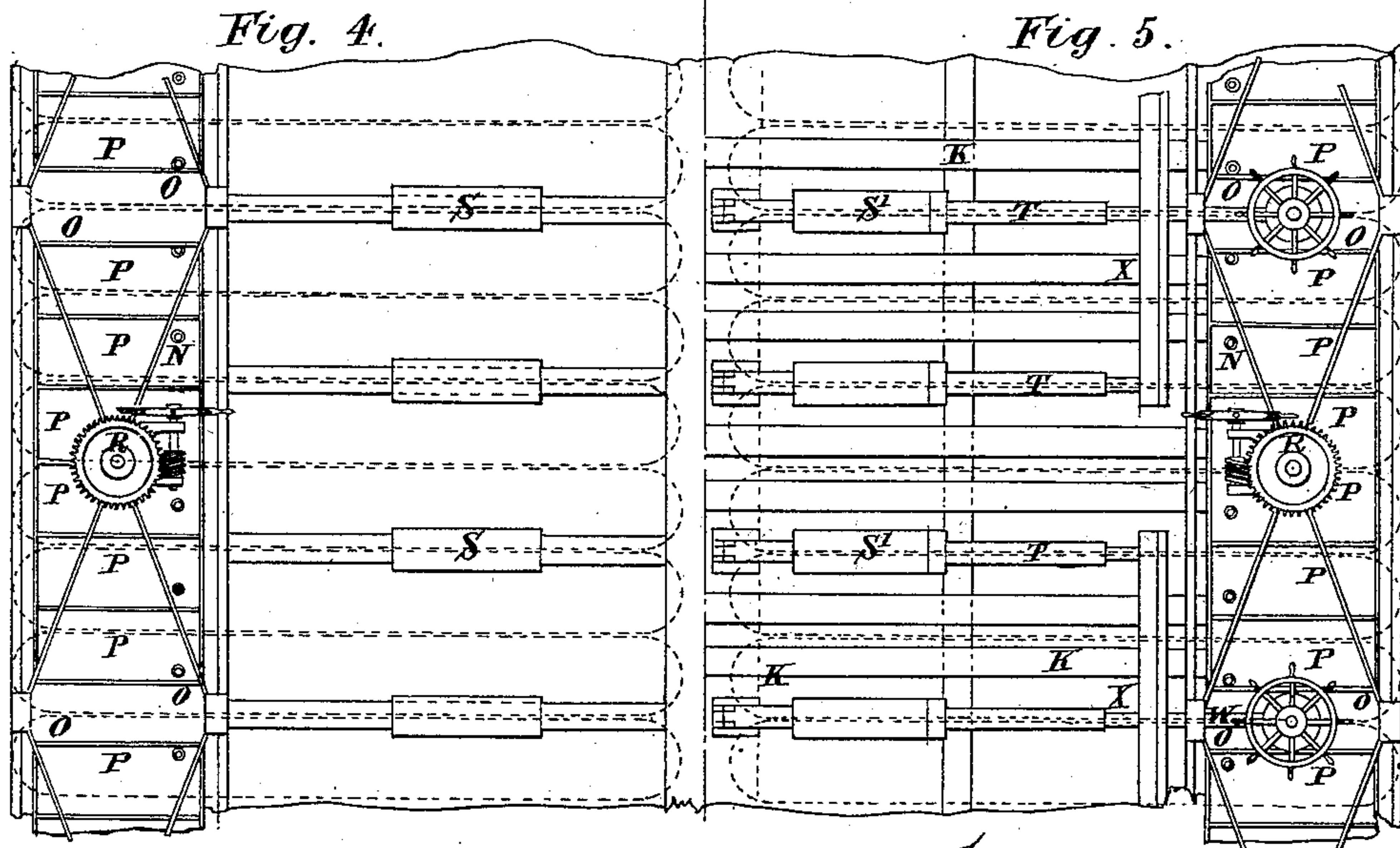
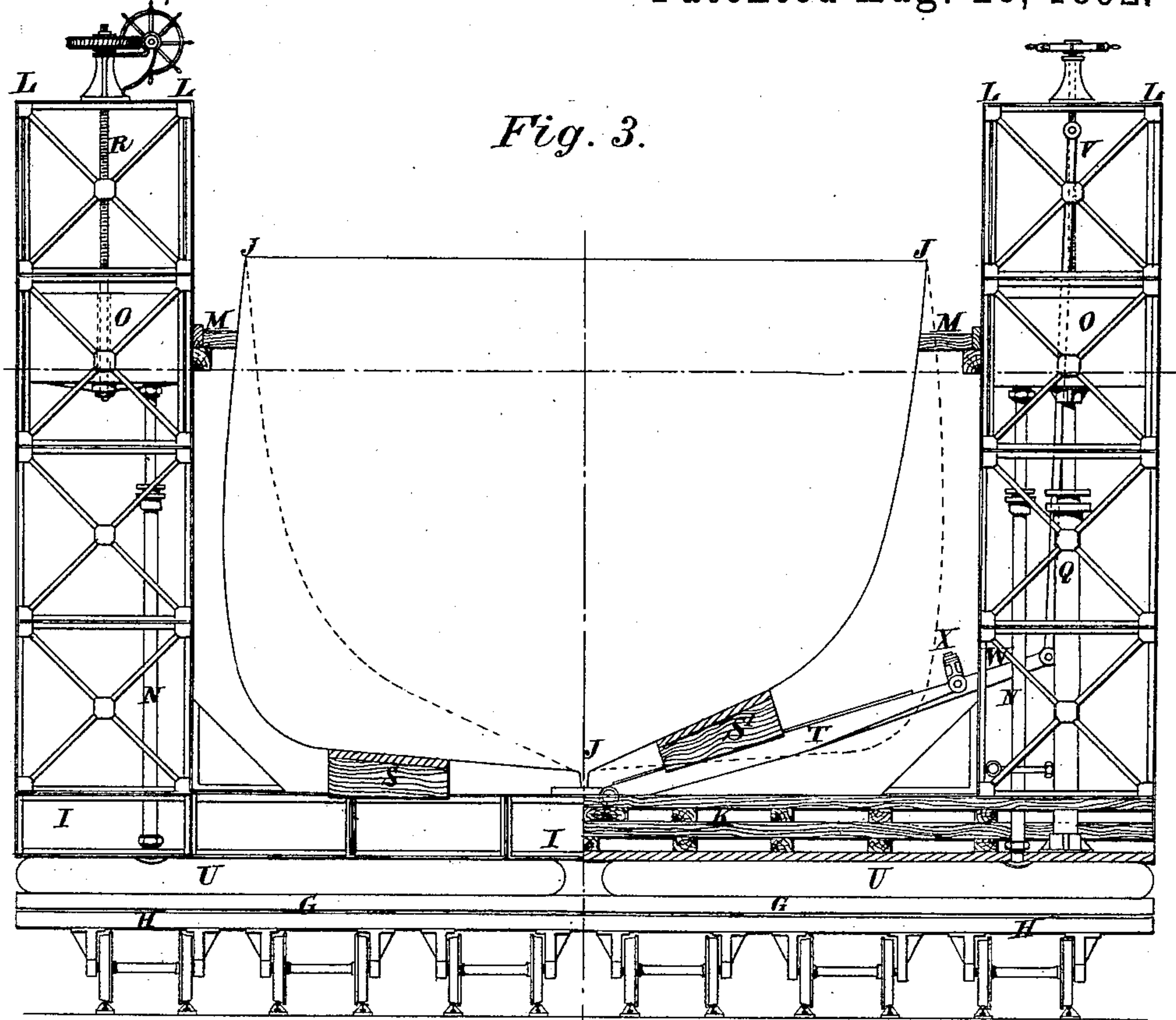
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Attest.
Geo. T. Smallwood,
Notary Public.

Inventor:
Walter Robert Kinipple
by F. A. D. Manna
his attorney.

UNITED STATES PATENT OFFICE.

WALTER ROBERT KINIPPLE, OF LONDON, ENGLAND.

OVERLAND SHIP CONVEYANCE.

SPECIFICATION forming part of Letters Patent No. 481,405, dated August 23, 1892.

Application filed May 2, 1892. Serial No. 431,414. (No model.)

To all whom it may concern:

Be it known that I, WALTER ROBERT KINIPPLE, civil engineer, a subject of the Queen of Great Britain and Ireland, residing at No. 3 Victoria Street, in the city of Westminster, England, have invented certain Improvements in Apparatus to be Employed for Conveying Ships or Large and Heavy Bodies Overland, of which the following is a specification.

My invention relates to apparatus to be employed for conveying ships or large and heavy bodies overland, in which apparatus bags or flexible containers of liquid are used in combination cradle-like structures carried upon trucks adapted to travel upon railways.

According to my invention I provide means whereby the bags or receptacles for the liquid (which I will refer to as the "hydraulic cushions") can be brought into position to adapt them to various sizes and forms of vessels or other bodies, and I also provide means whereby the heads of liquid giving the pressure in the various hydraulic cushions can be regulated to correspond with the various displacement-weights of different vessels or bodies. I place the hydraulic cushions upon frames, platforms, or carriers which can be adjusted in position to bring the hydraulic cushions against the vessel, so as to support it properly. For this purpose the frames, platforms, or carriers may be centered or hinged at one end, or in the center, or at other suitable part, and their operation may be effected by means of hydraulic rams or by screws, or they may be adjusted by wedges or the like. Instead of placing the hydraulic cushions on the top of the adjustable platforms and adjusting them, as described, the said hydraulic cushions may be laid on the structures on the trucks, and cross-bearers may be laid on the top of the cushions, and on these cross-bearers the vessel or body to be conveyed can be docked and shored, or a gridiron or ponton, or gridirons or pontoons (with or without side girders) may be used instead of cross-bearers. The liquid contents of the hydraulic cushions are in communication by suitable pipes or connections with tanks or reservoirs placed at the sides or ends of the structures on the trucks or in any suitable position, so as to give the requisite heads of liquid at the various points required. There may be a sepa-

rate tank for each cushion, or each tank may be common to several cushions. To regulate the heads of liquid according to the varying weights of the vessel at different parts, the tanks are made adjustable as to their elevation, which adjustment may be affected by any suitable mechanism, such as hydraulic rams, screws, levers, or the like.

In order that my said invention may be fully understood, I now proceed more particularly to set forth the system, mode, or manner in or under which the same is or may be used or practically carried into effect, as applied to the overland transport of a ship, from which its application to other heavy bodies to be transported will also be understood, reference being had to the accompanying drawings and to the letters marked thereon—that is to say:

Figure 1 represents a transverse section of the ship and car and supporting devices, the left-hand side of the figure showing the midship-section and the right-hand side of the figure showing the section at about half-way between midships and the head or stern of the ship. Fig. 2 is a longitudinal section of part of the supporting device. Fig. 3 is a transverse section, the left-hand side at midships and the right-hand side at about half-way between midships and the head or stern of the ship showing an alternative method of arranging the apparatus according to my present invention. Fig. 4 is a plan of the left-hand half of Fig. 3, and Fig. 5 is a plan of the right-hand half of Fig. 3.

A A are the bags or receptacles for the liquids (which bags or receptacles I, as before stated, refer to as the "hydraulic cushions.") According to my invention, they are provided with means by which they can be brought into position to adapt them to various sizes and forms of vessel. This is effected by placing the said hydraulic cushions upon frames, platforms, or carriers B B B, which can be adjusted in position to bring the hydraulic cushions against the vessel, so as to support it properly. For this purpose the frames, platforms, or carriers B B B may be centered or hinged at one end C C or at any other suitable part. The said frames, platforms, or carriers may be operated by means of hydraulic rams D D, attached to the ends F F

of the platforms B B or to any suitable part—
for instance, to the center, as shown at E—or
they may be raised or lowered or adjusted by
screws, wedges, sliding blocks, levers, or the
5 like. For instance, they may be raised, low-
ered, and adjusted by levers and screws, as at
V and W in Fig. 3, the hydraulic cushions
being placed on the levers, in place of using
the wedges S, as shown in that figure.

10 Instead of placing the hydraulic cushions
on the top of the adjustable platforms B B B
and adjusting them, as described, the said
hydraulic cushions may be laid on the struc-
ture G G, as shown in Fig. 3, which can slide
15 or move on the truck H H and cross-bearers,
or pontoons I I may be laid on the top of these
cushions, and on the pontoons I I the vessel J J
J may be docked on ordinary sliding bilge-
blocks S S or on bilge-blocks S' S', sliding on
20 adjustable bearers T T. These may be ar-
ranged in groups of three, connected by a
cross-bar or yoke X, the screw or other means
of adjustment being connected to an exten-
sion of the middle or adjustable bearer T, as
25 shown at W in Fig. 3. A gridiron K K K
may be used instead of the cross-bearers or
pontoons I I.

At the left-hand side of Fig. 3 the ponton
arrangement is shown, and on the right-hand
30 side the gridiron arrangement is shown. The
ponton or gridiron may or may not have side
girders or framework L L L, to which the ship
may or may not be shored, as at M M.

The liquid contents of the hydraulic cush-
35 ions U U are in communication by suitable
pipes or connections N N N with tanks or res-
ervoirs O O O, placed in the side girders or
framework L L, or at the ends of the structures
on the trucks, or in any other convenient po-
40 sition, so as to give the requisite head of liq-
uid at the various points required. There
may be a separate tank or compartment P for
each hydraulic cushion, or each tank O O O
or compartment of a tank may be common to
45 several hydraulic cushions.

To regulate the heads of liquid according
to the varying weight of the vessel at differ-
ent parts of its length, the tanks are made ad-
justable as to their elevation, which adjust-
50 ment may be effected by any suitable mech-

anism, such as by hydraulic rams Q Q, Figs.
1, 2, and 3, or they may be adjusted by screws
R R, levers, or the like, for instance, as shown
in Figs. 3, 4, and 5.

Having now particularly described and as- 55
certained the nature of my said invention and
in what manner the same is to be performed,
I declare that what I claim is—

1. In apparatus for conveying ships or 60
large heavy bodies overland, the combination,
with suitable supports, of a series of hy-
draulic cushions between the ship and sup-
ports, each cushion being provided with an
independent pressure-regulating device, sub-
stantially as described. 65

2. In apparatus of the kind and for the pur-
pose referred to, the combination, with the
hydraulic cushions, of tanks or reservoirs con-
nected, respectively, with separate cushions
and adjustable to vary the pressure in said 70
cushions, substantially as described.

3. The combination, with suitable supports,
of hydraulic cushions interposed between the
ship and supports, supply-tanks connected, re-
spectively, with different cushions or groups 75
of cushions, and means for independently
raising and lowering the respective tanks,
substantially as described.

4. In apparatus of the kind and for the pur-
pose referred to, the combination, with the 80
hydraulic cushions, of movable carriers there-
for and means for independently adjusting
said carriers, substantially as described.

5. In apparatus of the kind described, the
combination, with the framework and trucks, 85
of carriers hinged at one end near the mid-
dle of the framework and extending in oppo-
site directions, means for raising and lower-
ing the free ends of the carriers, and hy-
draulic cushions on the respective carriers, 90
substantially as described.

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

WALTER ROBERT KINIPPLE.

Witnesses:

WILLIAM JOHN WEEKS,

RUDOLPH CHARLES NICKOL,

Both of 9 Birchin Lane, London, E. C.