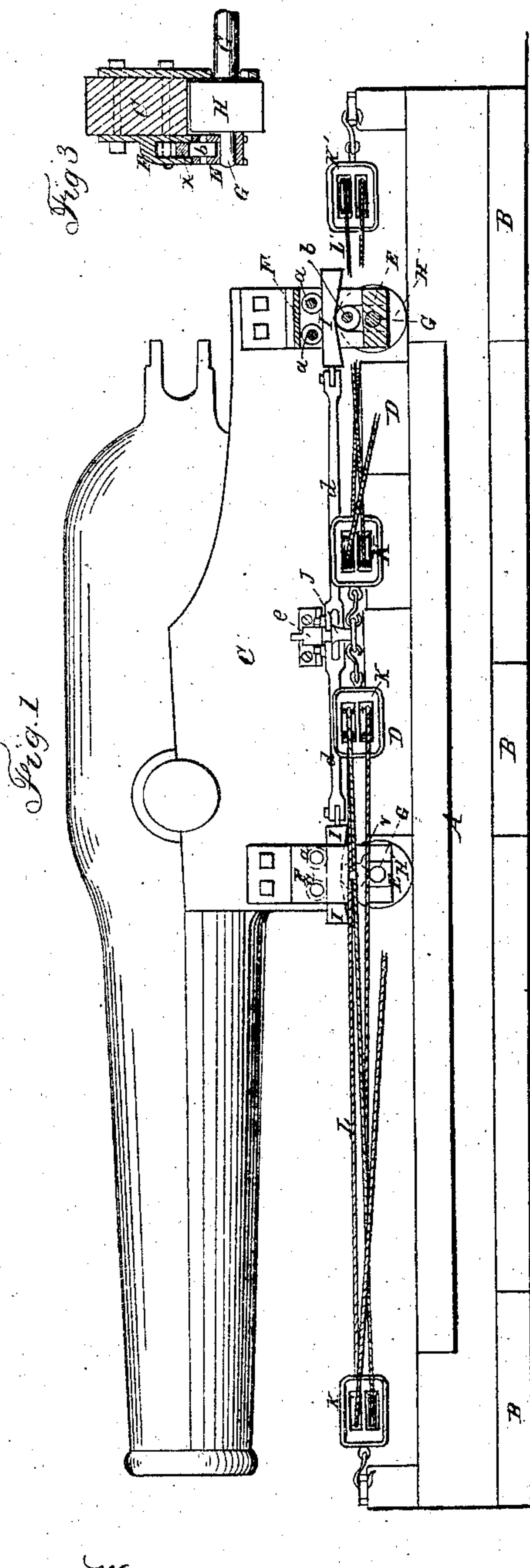


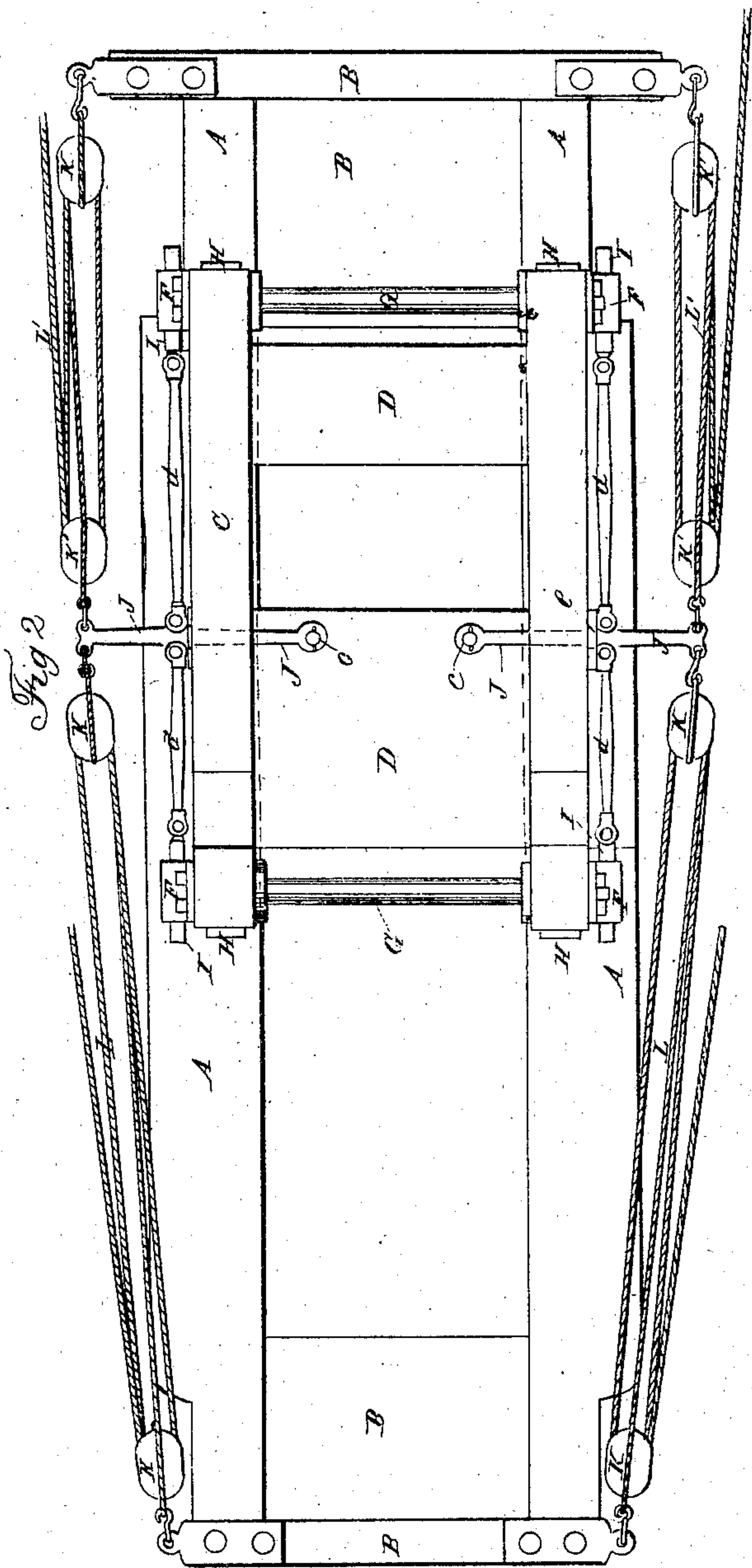
R. H. LONG.
Gun-Carriage

No. 39,449.

Patented Aug. 4, 1863.



Witnesses
J W Coombs
L W Reed



Inventor;
R H Long
per *[Signature]*
Attorney

UNITED STATES PATENT OFFICE.

ROBERT H. LONG, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
JOSEPH GRICE, OF NEW YORK, N. Y.

IMPROVEMENT IN OPERATING GUN-CARRIAGES.

Specification forming part of Letters Patent No. 39,449, dated August 4, 1863.

To all whom it may concern:

Be it known that I, ROBERT H. LONG, of the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Gun-Carriages; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of a gun, with its carriage and bed, having my improvement applied. Fig. 2 is a plan of the carriage and bed. Fig. 3 is a transverse section of one of the axle-boxes.

Similar letters of reference indicate corresponding parts in the several figures.

The principal object of my invention is to prevent guns used on shipboard from getting adrift either while in use or at any other time, and thereby injuring the crew; and to this end it consists in so combining the axle-bearings with the carriage and with the tackles for working the gun that when there is no strain on the said tackles the body of the carriage rests directly upon the bed, with the wheels free, but that by the act of hauling on the tackles to run the gun in or out the weight of the gun and carriage is brought upon the wheels, so that the carriage will run freely.

It also consists in combining the axle-bearings with the carriage and tackles of a novel system of double wedges and levers.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A A are the slides, and B B the transoms, constituting the bed on which the carriage C C D D works. The carriage is of the construction which is usual for carriages which work on slides. F F are the axle-boxes bolted to the sides of the carriage, and E E are the axle-bearings fitted to slide vertically within the said boxes. G G are the axles, and H H the wheels, the latter arranged to run on the slides A A in the usual manner.

I I are the double wedges, one fitted to work in an opening provided for it through each axle-box in a direction parallel with the sides of the carriage. These double wedges each resemble two wedges united at their points or smaller ends, as shown at the rear end of Fig.

1, and each is arranged to work between two anti-friction rollers, *a a*, fitted to its respective box E, and a third anti-friction roller, *b*, fitted to a slot in its respective bearing E.

J J are levers arranged to work horizontally on fixed fulera *c c*, which attach their inner ends to one of the cross-timbers, D, of the carriage, and passing through openings in the sides C C of the carriage, one in each side. Each of these levers is connected, just outside of the carriage, by two rods, *d d*, with the two double wedges I I on its respective side of the carriage, and each is connected at its outer extremity by one of two sets of pulley-blocks, K K, and tackles L, with the outboard end of the bed, and by one of two sets of pulley-blocks, K' K', and tackles L', with the inboard end of the bed.

The tackles L L are used to run the carriage out for firing, and those L' L' to run it back for loading, and when power is applied to either pair of tackles for this purpose the tackles first act upon the levers J J in such manner that the wedges act between their respective rollers, *a a b*, to raise the carriage from the bed and bring the whole weight of both carriage and gun upon the axles and wheels; and hence by the continued pull on the tackles the carriage is caused to move easily, the wheels running on the slides A A. When the two tackles L L are pulled to draw the carriage forward, the back wedge of each of the four pairs is brought into action, and when the two tackles L' L' are pulled the front wedge of each pair is brought into action. When the pull on the tackles ceases and the levers and wedges are left free, the inclined surfaces of the wedges, which have been bearing on the rollers *b b*, are caused by the weight of the gun and carriage to run down on the said rollers till the body of the carriage comes to a bearing on the slides A A, and the carriage becomes immovable by any ordinary agency, so that the gun is stationary, whether run out for firing or run back for loading, and in either case there is no danger of its getting adrift, as its carriage is never free from the bed and resting on the wheels, but while the power is applied to the tackles to run it in or out. When the strain is off the tackles, the highest points in the lower inclined surfaces of the wedges—that is to say, the points of junction of the two wedges

of each pair—are directly over the centers of the rollers *b b*, and the wheels rest upon the bed, with no weight upon them but that of the axles and the bearings *E E*. To provide for the locking of the wedges in the above-mentioned positions, there are hinged to the sides of the carriage two stops, *e e*, one on each side, which occupy such positions as to be capable of being depressed between the ends of the rods *d d* at their junction with their respective lever *J*.

My invention might also be applied to guns for fortifications mounted on platforms or beds.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. So combining the axle-bearings *E E* with the carriage and with tackles for working the

gun that when there is no strain on the said tackles the body of the carriage will rest directly on the bed with its wheels free; but that by the act of hauling on the tackles to run the gun in or out the weight of the gun and carriage is brought on the wheels, so that the carriage will run freely, substantially as herein described.

2. The employment, for combining the axle-bearings with the carriage and tackles, of a novel system of double wedges, *I I*, and levers *J J*, applied to operate substantially as and for the purpose herein described.

Witnesses:

ROBT. H. LONG.

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ROBT. L. REANEY.