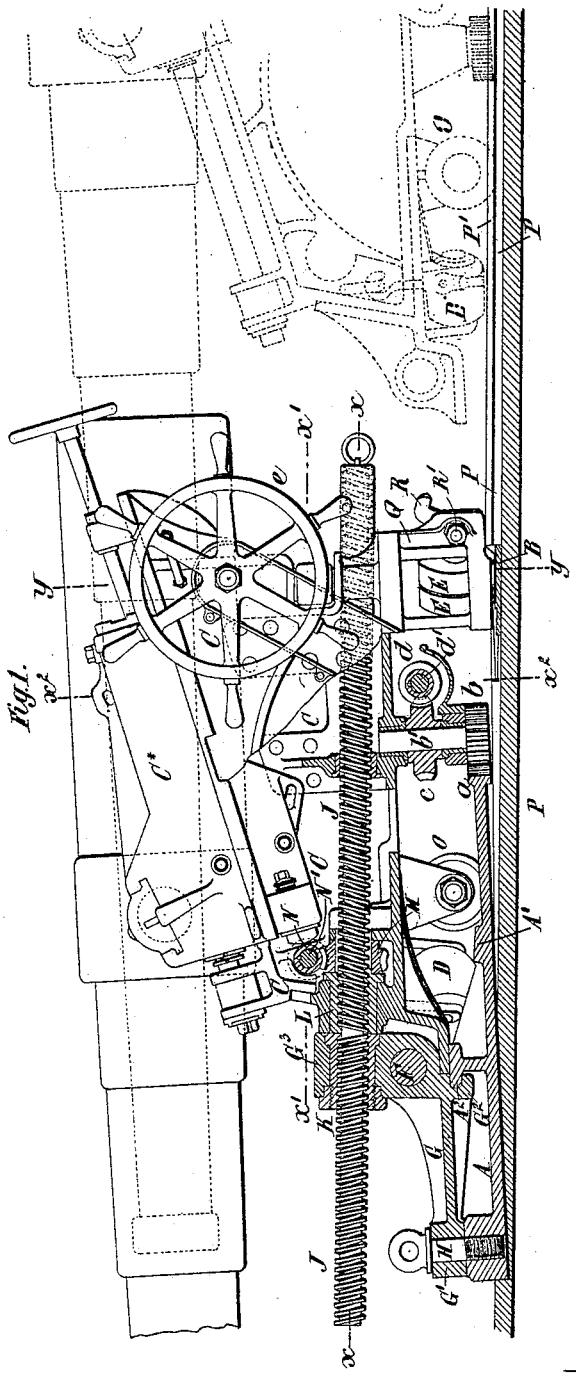
(No Model.)

4 Sheets—Sheet 1.

J. B. G. A. CANET.

GUN CARRIAGE.

No. 455,166. Patented June 30, 1891.



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(No Model.)

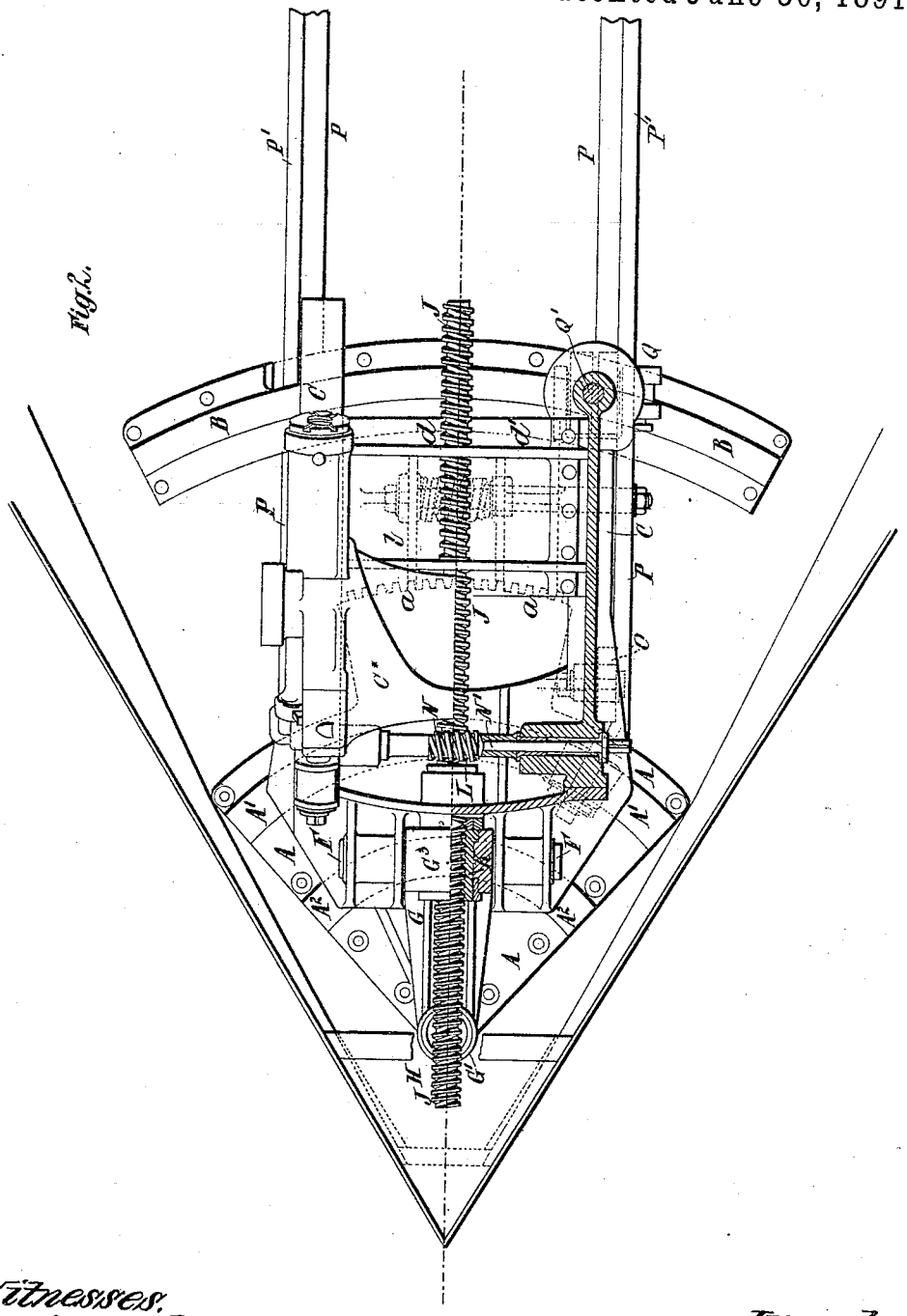
4 Sheets—Sheet 2.

J. B. G. A. CANET.

GUN CARRIAGE.

No. 455,166. Patented June 30, 1891.

Fig. 2.



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4 Sheets—Sheet 3.

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GUN CARRIAGE.

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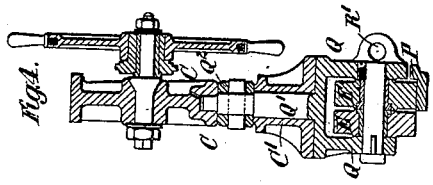

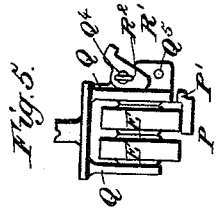

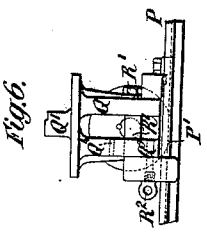

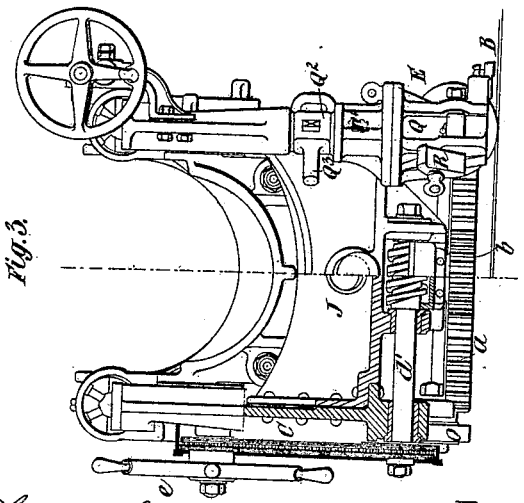

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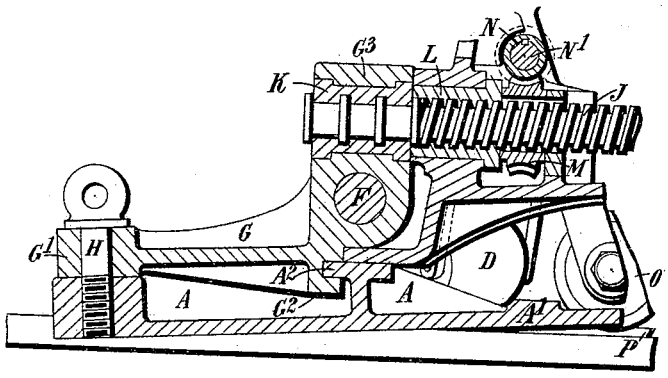
4 Sheets—Sheet 4.

J. B. G. A. CANET.

GUN CARRIAGE.

No. 455,166. Patented June 30, 1891.

Fig. 7.



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UNITED STATES PATENT OFFICE.

JEAN BAPTISTE GUSTAVE ADOLPHE CANET, OF PARIS, FRANCE, ASSIGNOR OF ONE-HALF TO THE SIR JOSEPH WHITWORTH & COMPANY, LIMITED, OF MANCHESTER, ENGLAND.

GUN-CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 455,166, dated June 30, 1891.

Application filed July 11, 1888. Serial No. 279,693. (No model.) Patented in France March 16, 1886, No. 174,807, and in England July 9, 1887, No. 9,687.

To all whom it may concern:

Be it known that I, JEAN BAPTISTE GUSTAVE ADOLPHE CANET, engineer, a citizen of the Republic of France, and a resident of Paris, France, have invented new and useful Improvements in and Relating to Gun Carriages or Mountings, (for which I have obtained patents in the following countries: Great Britain, No. 9,687, dated July 9, 1887, and France, No. 174,807, dated March 16, 1886,) of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to gun carriages or mountings chiefly designed for use on ships or behind walls or parapets with or without embrasures or ports.

The said invention comprises means for housing the gun and its mounting entirely behind or inside of the armor, wall, or parapet, so that the gun port or opening can be closed, and for readily running out or returning the gun and mounting to the firing position.

The said invention also comprises other improvements hereinafter set forth.

In the accompanying drawings, Figure 1 is a side elevation, partly in vertical central section, of a carriage or mounting constructed according to the present invention and designed for a gun having a very long chase, the gun being shown in the firing position. Fig. 2 is a plan, partly in horizontal section, on the line $x\ x$ and on the line $x'\ x'$, Fig. 1. Fig. 3 is a rear elevation, partly in transverse section, on the line $x^2 x^2$, Fig. 1. Fig. 4 is a transverse section of part of the gun-mounting on the line $y\ y$, Fig. 1. Figs. 5 and 6 are views, hereinafter referred to, showing details of construction. Fig. 7 is a longitudinal central section of a portion of a gun-mounting, showing a modification of my invention hereinafter described.

Like letters indicate corresponding parts throughout the drawings.

A is a strong base-plate, which has formed thereon or firmly attached thereto a circular or segmental rail, racer, or roller-path A′, and which is rigidly secured to the deck of a ship or to any other suitable platform. Another rail, racer, or roller-path B is also rigidly secured to the deck or other platform.

C is the chassis, frame, or under carriage, which rests by means of two rollers or trucks D and two pairs of rollers or trucks E upon the said circular or segmental rails, racers, or roller-paths A′ B.

C* is the cradle or top carriage, in which the gun is supported by its trunnions.

The chassis or frame C is connected by a strong bolt F to a pivot-link G, which has formed thereon the eye G′ for the pivot-pin or pintle H, and also a clip G^2, which engages with a projection or flange A^2 on the base-plate A and prevents tilting of the said chassis or frame.

The training or traversing of the gun is effected by turning the frame or under carriage upon or about the pivot-pin or pintle H by the means hereinafter mentioned or by any other suitable means.

The mechanism for effecting the housing of the gun and mounting so as to bring the gun entirely to the rear or inside of the wall or parapet comprises a strong screw-shaft J, working in two nuts K L. The nut K is firmly secured in a boss or bracket G^3, formed with or firmly attached to the pivot-link G, and the nut L is firmly secured in the frame or under carriage C. The screw-shaft J has a right and a left hand screw-thread, the nuts K L being correspondingly screw-threaded. Upon the screw-shaft J is mounted a worm-wheel M, provided with a key, which is fitted to slide in a longitudinal groove or keyway formed in the said screw-shaft and extending to the rear end thereof. This worm-wheel is geared with a worm or endless screw N, the shaft N′ of which is to be provided at its extremities with suitable driving-cranks or handles.

To facilitate the backward movement of the frame or under carriage C, it is provided in front with a pair of rollers or trucks O, which rest upon straight rails or ways P, secured to the deck or firing-platform. The traversing rollers or trucks E at the rear of the mounting are carried by pivoted blocks Q, so that by turning the said blocks through an angle of about ninety degrees the rollers

or trucks E can be adapted to run upon the said rails or ways P. One of the blocks Q is shown more clearly in section in Fig. 4, in side elevation in Fig. 5, and in rear elevation in Fig. 6. Each block Q is provided with a pivot-pin Q′, which extends upward through a bearing C′ on the frame or under carriage C, and which has fixed upon it a collar Q^2, having a projecting arm Q^3, Fig. 3, whereby the said block may be turned for the purpose above specified. Each block Q is, moreover, provided with a hook, catch, or clip R, pivoted at R′ to the said block. These hooks, catches, or clips may be turned down so that they will engage with the flanges P′ of the rails P, as shown in Fig. 6, and will guide or hold down the rear of the frame or under carriage C in its backward movement, or they can be turned up into the position shown in Fig. 5, so that they are clear of the said rails.

To provide for retaining the hook, catch, or clip R at either extremity of its movement, two holes Q^4 Q^5 are formed in the block Q and a pin R^2 is passed through a hole in the hook or catch R and into one or the other of the holes Q^4 Q^5. Other suitable means may, if desired, be employed for holding the said catches or clips at either extremity of their movement.

The running in or housing of the gun and mounting is effected as follows, viz: Assuming the gun to be in the firing position on the mounting, the frame or under carriage is so adjusted upon the rails A′ B and the blocks Q, carrying the rollers or trucks E, are so turned that the said rollers or trucks may run upon the straight rails or ways P, the hooks R being turned down so that they engage with the flanges P′ of the said rails or ways P. The gun and the top carriage C* are then run back by any convenient means to their rearmost position upon the chassis or under carriage C, as indicated by dotted lines in Fig. 1, and are held in this position by means of locking-bolts or other suitable devices. The bolt F, which connects the frame or under carriage C with the pivot-link G, is withdrawn, and the cranks or handles, which actuate the screw-shaft J through the medium of the worm N and worm-wheel M, are turned in the proper direction to move the frame or under carriage backward along the straight rails P upon the rollers or trucks O E.

The screw-shaft J is made of such length that when it has moved the frame or under carriage to the rear extremity of its course, as indicated by dotted lines in Fig. 1, the gun is brought completely within the armor or behind the wall or parapet. It can be maintained in this position, if necessary, by means of tension-screws or other securing-gear and the gun-port can be closed.

The return of the gun and carriage or mounting to the firing position is effected by reversing the above-described operations.

For training or traversing the gun and mounting a toothed segment *a* is formed on or attached to the base-plate A, and has geared with it a pinion *b*, fixed on a vertical shaft *b′*, on which is also fixed a worm-wheel *c*. This worm-wheel is geared with a worm *d*, fixed on a shaft *d′*, arranged to be driven by chain-gearing actuated by means of the hand-wheel *e*; or the training of the gun may be effected by means of other suitable gearing.

Instead of making the screw-shaft J with right and left hand screw-threads and employing two screw-nuts thereon, as above described, I sometimes make the said screw-shaft with a right-hand thread or with a left-hand thread, arranged to work in the nut K or in the nut L, and I provide the said shaft with one or more collars, which work in a corresponding block or bearing used in place of the nut L or K, as the case may be, thus forming a thrust-bearing. In Fig. 7 I have shown an arrangement of this kind wherein the nut K is replaced by a thrust-bearing. The screw-shaft J when rotated turns in the thrust-bearing K and nut L, and, without itself moving endwise, imparts the desired longitudinal movement to the gun-carriage. When a thrust-bearing is substituted for the nut L instead of for the nut K, the screw-shaft J when rotated moves endwise, and thus imparts the desired movement to the gun-carriage. The right and left hand screw-threads have, however, the advantage, in the case of long guns, of increasing the speed with which the housing of the gun and mounting and the return thereof to the firing position can be accomplished and of reducing the length of that part of the screw which projects at the rear of the frame or under carriage when the latter is in the firing position.

What I claim is—

1. In a gun-mounting, the combination, with the under carriage, chassis, or frame, of a pivot-link secured at its forward end to a deck or platform, a pin or bolt for connecting the said under carriage, chassis, or frame with the said pivot-link, a screw-shaft carried by the said under carriage, chassis, or frame and by the said pivot-link and working in a nut in one of these parts, and means, substantially such as above described, for rotating the said screw-shaft, for the purposes above specified.

2. The combination, with the pivot-link and the under carriage, chassis, or frame detachably connected therewith, of the screw-shaft formed with right and left hand threads, nuts in the said pivot-link and under carriage, chassis, or frame through which the said screw-shaft works, and means, substantially such as above described, for rotating the said screw-shaft, for the purposes above specified.

3. The combination, with a gun-mounting provided with means, substantially such as above described, for moving the under carriage, chassis, or frame away from and toward the pivot-link, of segmental racers or roller-paths on which the gun-mounting will move about the pivot-pin or pintle when connected

with the said pivot-link, longitudinal ways or roller-paths on which the said mounting will travel when moved away from and toward the said pivot-link, adjustable rollers or trucks carried by the said under carriage, chassis, or frame and adapted to run on either set of the said racers, ways, or roller-paths, and clips adapted to engage with the said longitudinal ways or roller-paths, substantially as and for the purposes set forth.

4. The combination of the under carriage, chassis, or frame C, the pivot-link G, the bolt F for connecting the said under carriage, chassis, or frame with the said pivot-link, the nut K, secured in the said pivot-link, the nut L, secured in the said under carriage, chassis, or frame, the screw-shaft J, formed with right and left hand threads and working in the said nuts K L, and means, substantially such as above described, for rotating the said screw-shaft, substantially as and for the purposes set forth.

5. The combination of the base-plate A, provided with a flange A^2, the under carriage, chassis, or frame C, the pivot-link G, provided with the clip G^2, engaging with the said flange A^2, the bolt F for connecting the said under carriage, chassis, or frame with the said pivot-link, the nut K, secured in the said pivot-link, the nut L, secured in the said under carriage, chassis, or frame, the screw-shaft J, formed with right and left hand threads and working in the said nuts K L, and means, substantially such as above described, for rotating the said screw-shaft, substantially as and for the purposes set forth.

6. The combination of the base-plate A, provided with the segmental racer or roller-path A′, the racer or roller-path B, the under carriage, chassis, or frame, the pivot-link G, the bolt F, connecting the said under carriage, chassis, or frame with the said pivot-link, means, substantially such as above described, for moving the said under carriage, chassis, or frame away from or toward the said pivot-link, the longitudinal ways or roller-paths P, and the rollers E, carried by adjustable blocks Q, substantially as and for the purpose set forth.

7. The combination of the base-plate A, provided with the racer or roller-path A′ and with the flange A^2, the segmental racer or roller-path B, the longitudinal ways or roller-paths P, the under carriage, chassis, or frame C, provided with the rollers D O and with the rollers E, carried by the adjustable blocks Q, the pivot-link G, provided with the clip G^2, engaging with the said flange A^2, the bolt F for connecting the said under carriage, chassis, or frame with the said pivot-link, and a shaft J, provided with right and left hand screw-threads and working in nuts in the said pivot-link and under carriage, substantially as and for the purposes set forth.

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

JEAN BAPTISTE GUSTAVE ADOLPHE CANET.

Witnesses:
ROBT. M. HOOPER,
CH. I. THIRION.