

(No Model.)

3 Sheets—Sheet 1.

J. A. DEPORT.
GUN CARRIAGE.

No. 571,557.

Patented Nov. 17, 1896.

Fig. 1

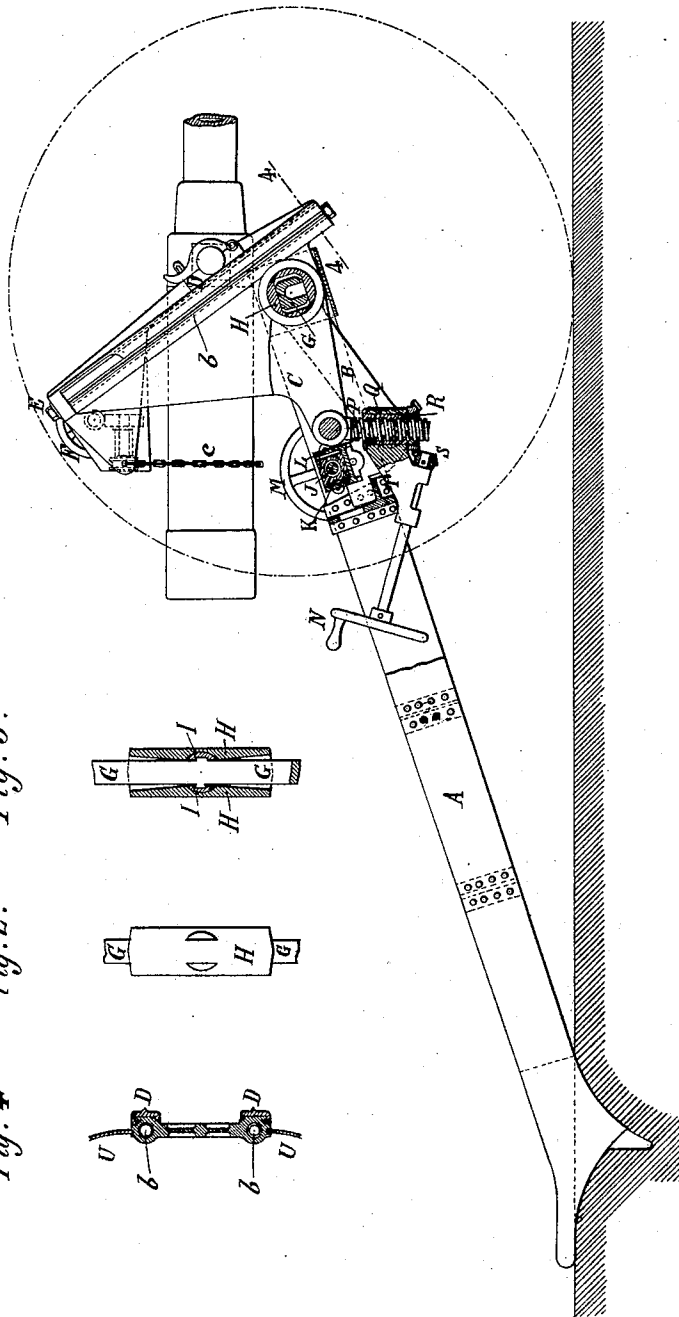


Fig. 3.

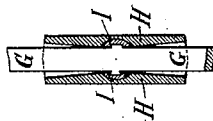
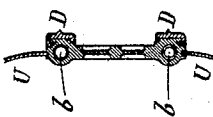


Fig. 2.



Fig. 4



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No. 571,557.

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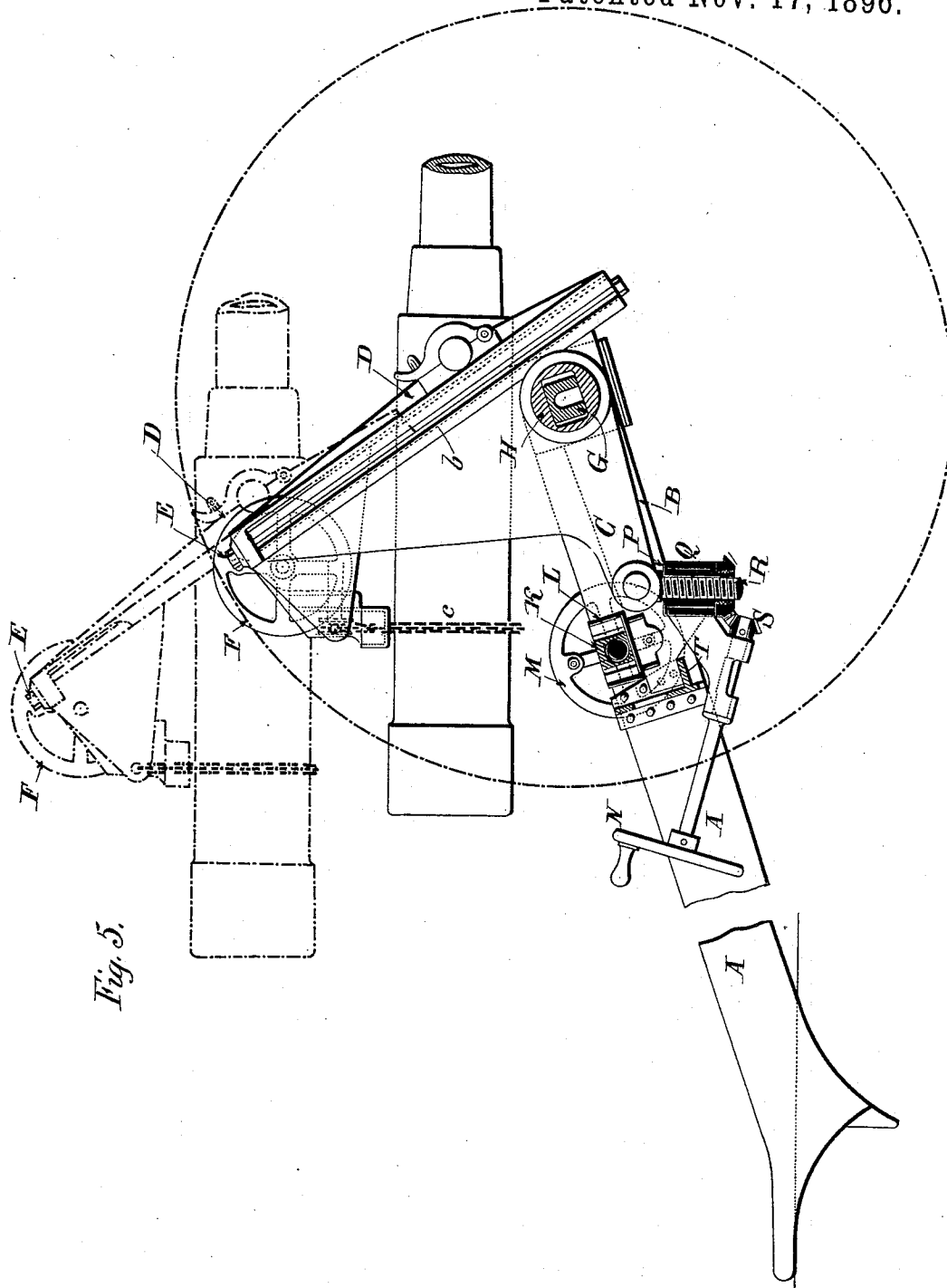


Fig. 5.

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(No Model.)

3 Sheets—Sheet 3.

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Fig. 6.

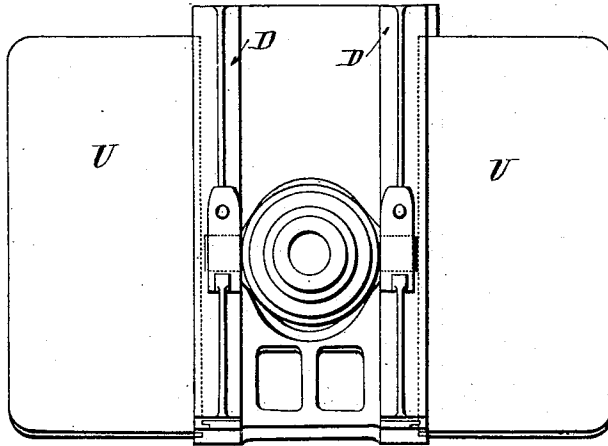


Fig. 7.

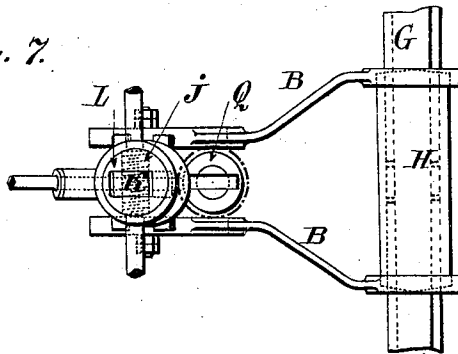
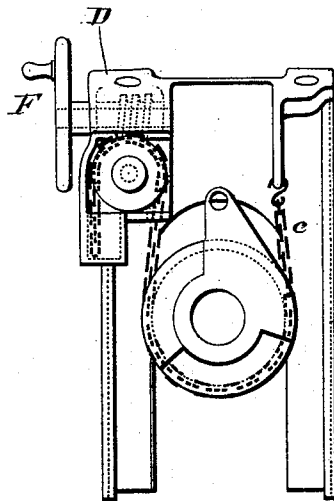


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOSEPH ALBERT DEPORT, OF PARIS, FRANCE.

GUN-CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 571,557, dated November 17, 1896.

Application filed June 20, 1895. Serial No. 553,420. (No model.) Patented in France March 18, 1895, No. 245,893; in Belgium May 15, 1895, No. 115,619; in England May 15, 1895, No. 9,637, and in Austria July 10, 1895, No. 45/2,520.

To all whom it may concern:

Be it known that I, JOSEPH ALBERT DEPORT, a citizen of the Republic of France, residing in Paris, France, have invented certain new and useful Improvements in Gun-Carriages, of which the following is a specification.

This invention is patented in France by Patent No. 245,893, dated March 18, 1895; in Belgium by Patent No. 115,619, dated May 15, 1895; in Great Britain by Patent No. 9,637, dated May 15, 1895, and in Austria by Patent No. 45/2,520, dated July 10, 1895.

This invention relates to the construction of gun-carriages, and more particularly to those for quick-firing guns, the object being to obviate the recoil and vertical rebound on firing and maintain the gun in the pointed position.

According to this invention the gun is mounted upon slides working in guides or ways inclined to a suitable angle and provided with correspondingly-inclined hydraulic brake-cylinders, so that on firing the entire recoil and lifting tendency are practically taken up by the slides which carry the gun in sliding up the inclined guides, and drawing up with them the pistons of the brake-cylinders, while the gun-carriage remains stationary. To this end the carriage is composed of a suitable frame or trail mounted on the axle of the wheels and provided with a beak to enter the ground. On this is mounted a frame which can swing to a certain extent horizontally, and which is provided with slideways having hydraulic brakes. The gun-carrying slide is arranged to move on the slideways during its recoil and replacement and carries the pistons of the brakes. The slideways instead of being but slightly inclined, as heretofore, which does not reduce to a notable extent the speed of recoil, are given a considerable inclination, which on horizontal ground is greater than forty degrees with the greatest angle of aim that must be provided for in practice. The movable frame instead of being mounted simply on a pivot for permitting lateral swing in aiming is placed on a pivoted support around which it may turn for directing the elevation of the aim, and it carries the sight. The gun-carrying slide is

provided with a mechanism for varying the inclination of the gun with reference to the adjustable frame.

To enable my invention to be better understood I have shown in the accompanying drawings one example of its practical embodiment in a gun-carriage, whereof—

Figure 1 is a side elevation, partly in vertical section. Fig. 2 is a fragmentary plan, and Fig. 3 a similar view in horizontal section of that portion of the frame which is mounted on the axle. Fig. 4 is a fragmentary transverse section on the line 4 4 in Fig. 1. Fig. 5 is a sectional side view similar to Fig. 1, showing the gun after recoil in dotted lines. Fig. 6 is a front elevation of the gun which slides in the shields. Fig. 7 is a fragmentary plan view illustrating the frame B and its connections. Fig. 8 is a rear elevation of the mechanism for supporting the breech of the gun.

Let A designate the main frame or trail of the carriage, which may be connected, as usual, to the axle G between the wheels.

B is a pivoted support interposed between the trail and the adjustable frame C. It is shown as constructed with a sleeve H, mounted on the axle and having two arms projecting from it rearwardly, (see Fig. 7,) and connected at the rear by a strong cross connection. The sleeve H is adapted to turn to a slight extent around the axle horizontally, being connected thereto by a joint I and being internally beveled, as shown in Fig. 3. The adjustable frame C is swiveled on the sleeve H and connected to the support B, so as to be adjustable vertically relatively thereto, its lateral adjustment being effected by the horizontal swing of the support B. The frame C is formed with inclined slideways, in which preferably are constructed the cylinders *b b* of the hydraulic brakes for checking the recoil.

D is a gun-carrying slide which slides on the inclined ways and which is forced up these ways during the recoil of the gun, as shown in dotted lines in Fig. 5. The rods of the hydraulic pistons are connected at E to the upper end of this slide. The slideways are shown as formed upon the exterior or front

side of the hydraulic brake-cylinders *b*, and the slide *D* serves when at rest to cover and protect these ways.

F shows the mechanism for pointing the gun on top of the slide *D*, and permits of varying the inclination of the gun by winding more or less of a chain *c*, in which the breech of the gun is slung, so that by winding or unwinding the chain the gun is roughly adjusted to the required vertical angle in sighting.

For effecting the horizontal swing or adjustment of the support *B* the cross connection *L* between its arms is constructed to house or receive a nut *K*, the threads of which are engaged by a rotative screw *J*, carried by the trail, and which may be turned by means of a crank-wheel *M* for propelling the rear portion of the support *B* laterally and causing it to swing around its pivot *I*. The rear of the support *B* rests on a strong table *T* on a cross-piece of the trail.

The adjustable frame *C* is connected to the pivoted support *B* on the one hand by means of the sleeve *H*, on which it is swiveled in front, and on the other hand at the rear by means of an adjusting-screw *P*, jointed to it and engaged by a tubular screw *R*, which may be turned in a bearing-socket *Q*, carried by the arms of the pivoted support *B*. The hollow screw *R* is fixed at its lower part to a bevel-wheel, which gears with a pinion *S*, actuated by the crank *N*, which serves thus to incline more or less the frame *C*, in order to allow for the relative sinking of the beak and wheels in the ground during firing. This mechanism also serves for raising or lowering the pivoted frame for the accurate sighting.

The frame *C*, carrying the slides, has laterally-projecting shields *U U*, Figs. 4 and 6, projecting to right and left of the frame, the shape of which in front lends itself especially well to the attachment of protectors thus arranged.

On firing the rearward action of the explosion forces the gun with its slide upward along the guideways, at the same time raising the pistons of the hydraulic brake-cylinders and thus absorbing the recoil, while the gun-carriage remains stationary.

What I claim is—

1. The combination in a gun-carriage of a main frame, an adjustable frame movable thereon mounted to preserve an invariable angle during the recoil, and formed with ways inclined rearwardly and upwardly, means for adjusting the angle of the latter frame, and a gun-carrying slide movable on said ways,

adapted for operation in essentially the manner described, whereby during the recoil the gun is compelled to ascend parallel with said ways.

2. The combination in a gun-carriage of a main frame, an adjustable frame mounted to swing horizontally to determine the lateral pointing of the gun, and adapted to turn around a horizontal axis for determining the elevation of the gun, and constructed with inclined slideways, and a gun-carrying slide movable on said ways.

3. In a gun-carriage, the combination of a main frame, an adjustable frame formed with hydraulic cylinders inclined rearwardly and upwardly, the exterior front faces of which constitute slideways, and a gun-carrying slide movable on said ways, adapted to cover and protect the ways, and carrying the piston-rods of said cylinders, constructed and arranged to cause the latter slide to ascend said ways during the recoil, thereby elevating the gun parallel with said ways.

4. The combination with the main frame or trail *A* and axle *G*, of the laterally-adjustable support *B*, an adjustable frame *C* pivoted on said support, an adjusting device between them for varying the vertical angle of said frame relatively to said support, and a gun-carrying slide *D* movable on inclined ways on said frame.

5. The combination in a gun-carriage of a main frame or trail *A* having a transverse ledge *T*, a main axle *G* and support *B* consisting of a sleeve *H* on said axle adapted to swing thereon around the pivot *I*, and of rearwardly-projecting arms resting on said ledge, a lateral adjusting-screw engaging said arms for laterally swinging said support, an adjustable frame *C* pivoted on said sleeve, a screw adjusting device interposed between said frame and the rearward arms of the support *B* for varying the elevation of said frame, inclined ways formed on said frame, and a gun-carrying slide *D* movable on said ways.

6. In a gun-carriage, the combination of a main frame, an adjustable frame formed with inclined slideways, protector-shields extending laterally from said slideways, and a gun-carrying frame movable on said ways.

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

JOSEPH ALBERT DEPORT.

Witnesses:

JULES ARMENGAUD, Jeune.

CLYDE SHROPSHIRE.