

No. 890,603.

F. CHARRON.

PATENTED JUNE 16, 1908.

PROTECTING SHIELD FOR LIGHT ORDNANCE.

APPLICATION FILED FEB. 6, 1907.

2 SHEETS—SHEET 1.

FIG-2-

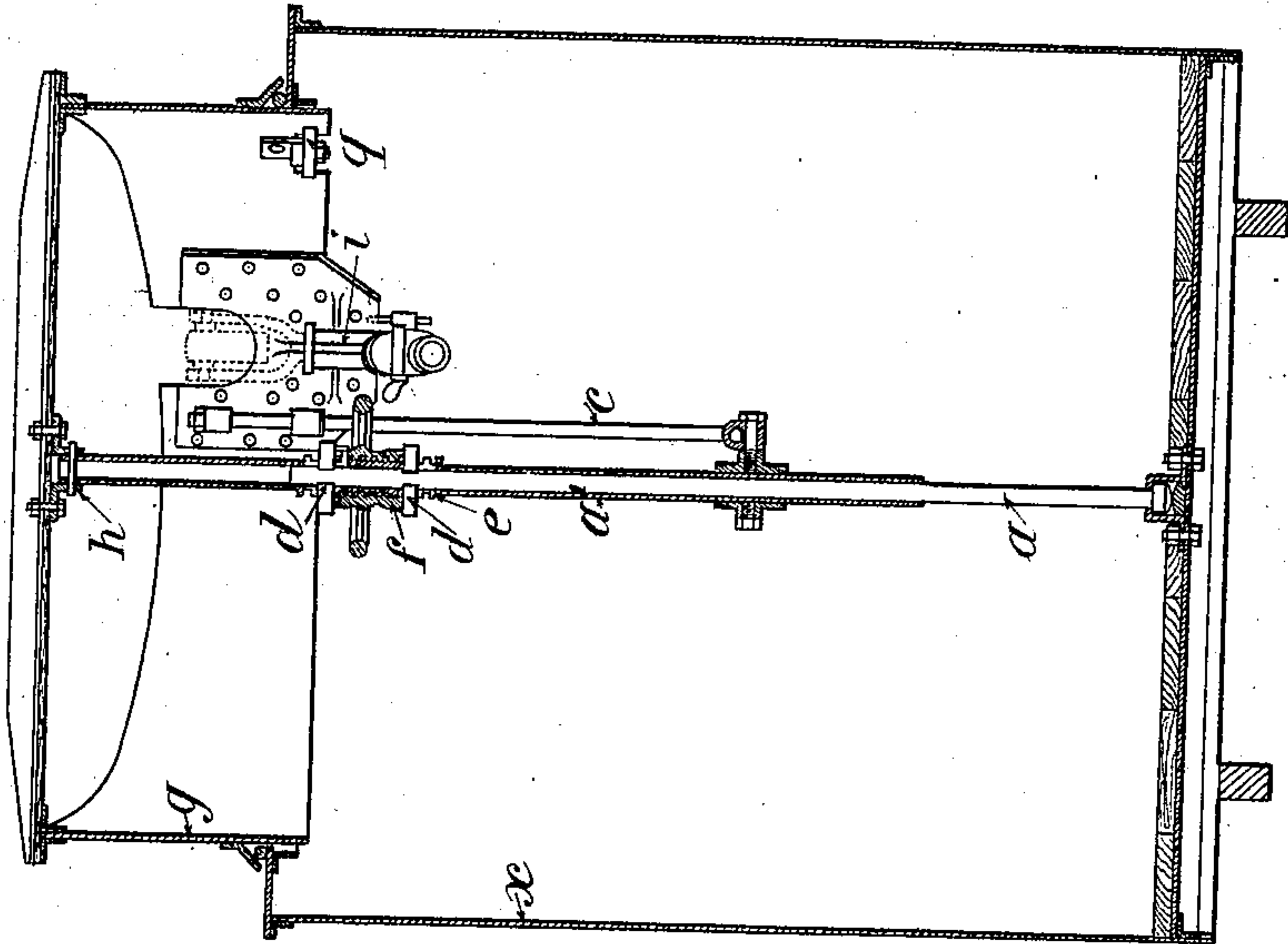
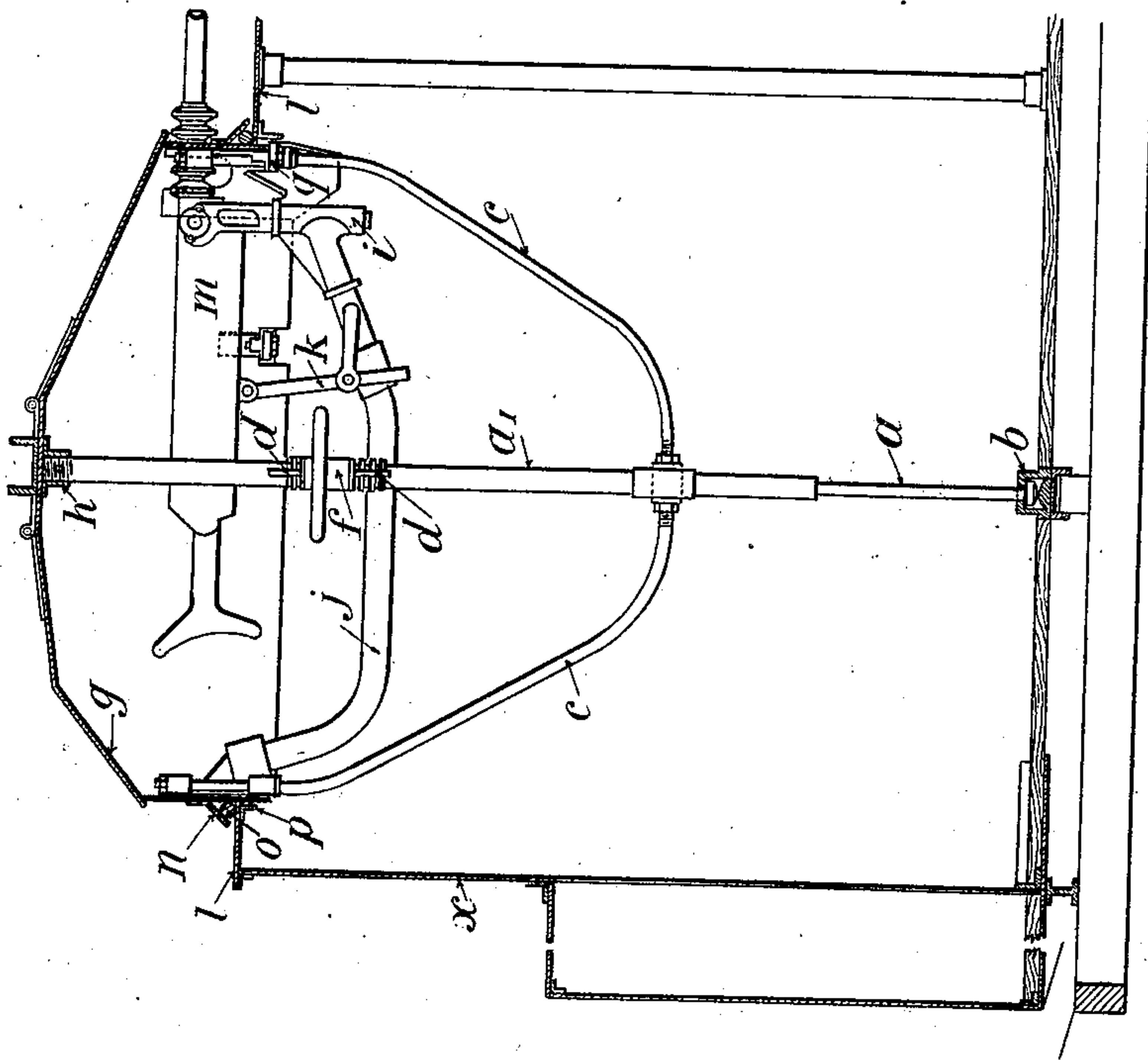


FIG-1-



WITNESSES

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INVENTOR

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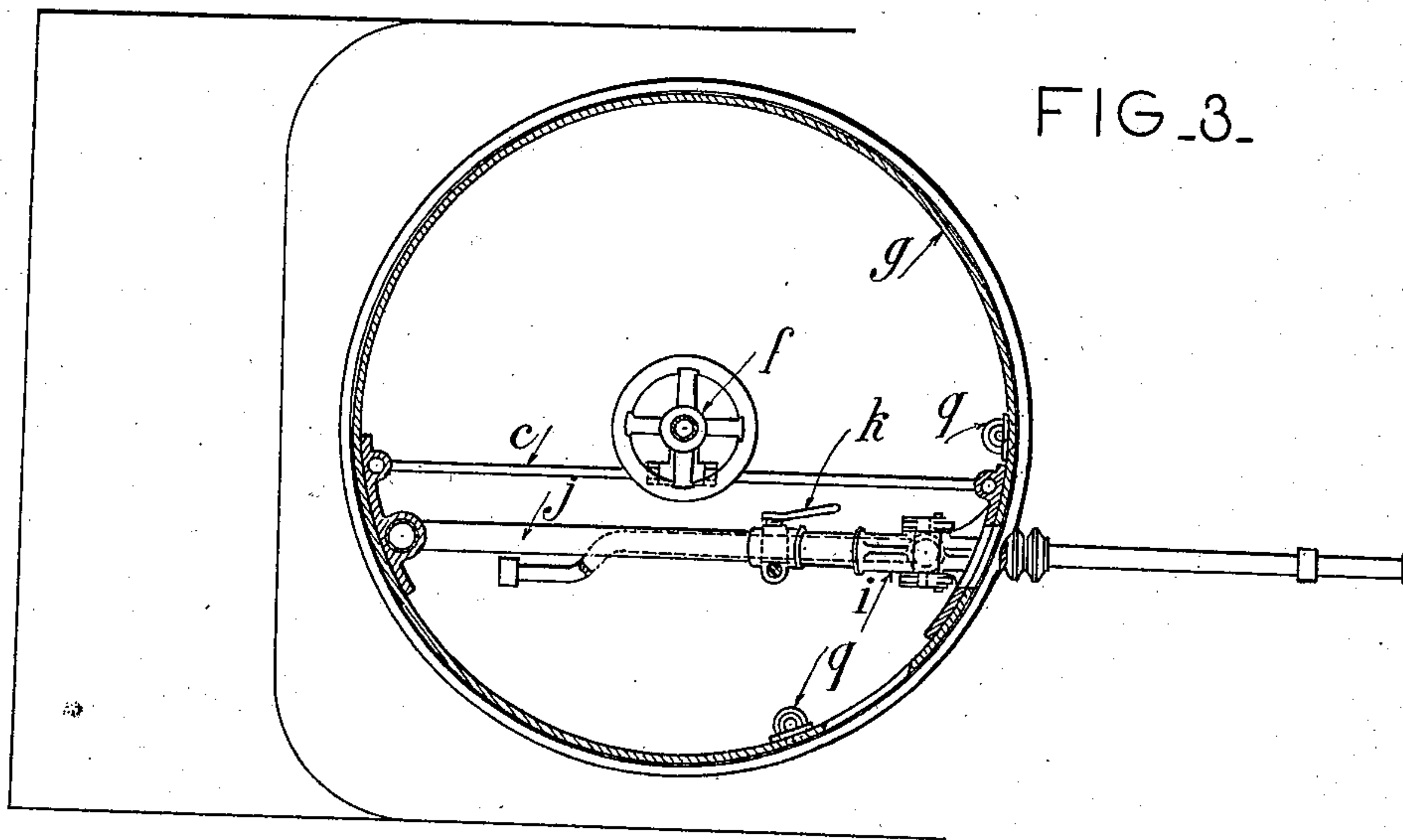
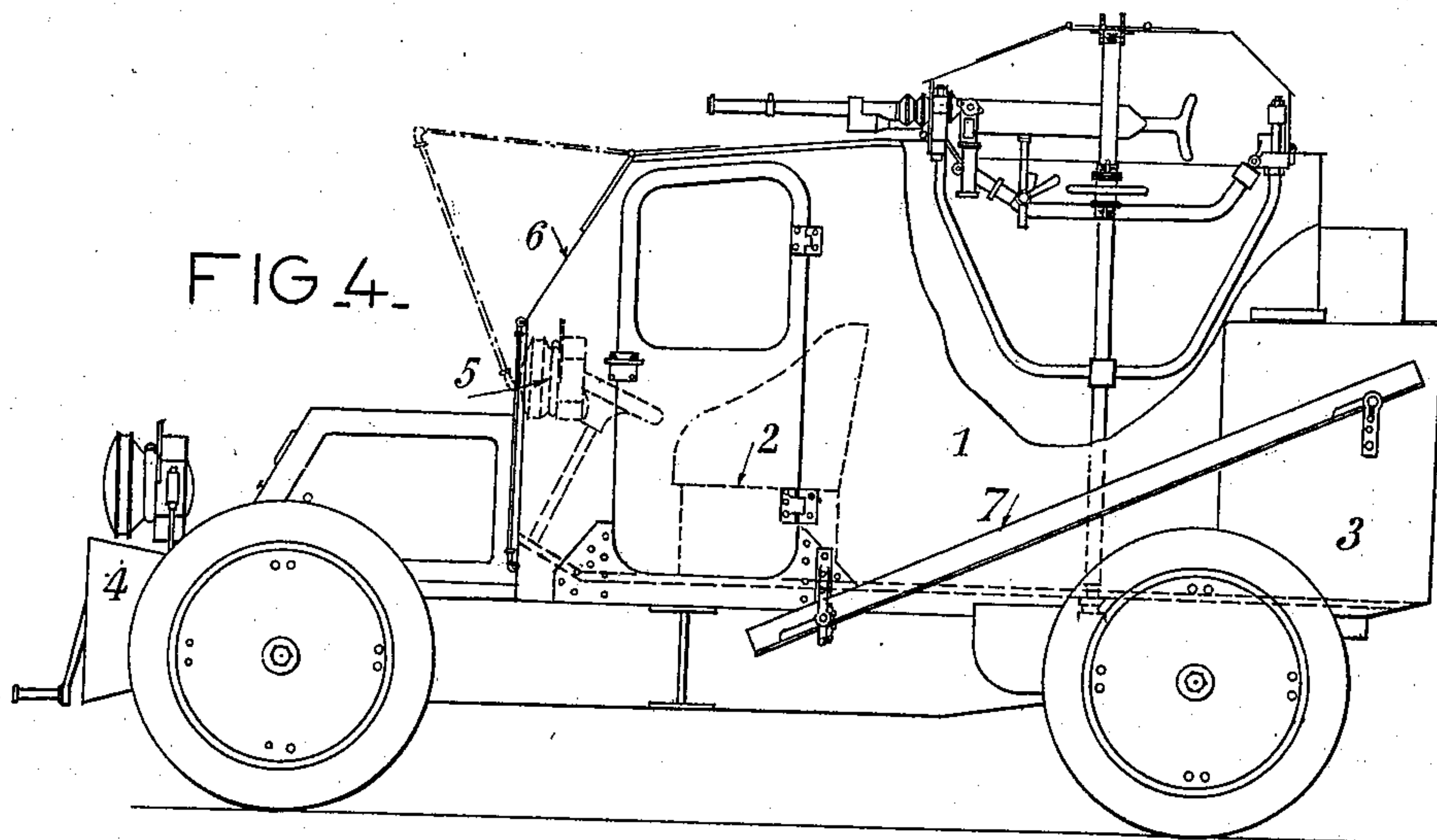
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2 SHEETS—SHEET 2.



WITNESSES

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PROTECTING-SHIELD FOR LIGHT ORDNANCE.

No. 890,603.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed February 5, 1907. Serial No. 355,937.

To all whom it may concern:

Be it known that I, FERDINAND CHARRON, citizen of France, residing at 7 Rue Ampère, Puteaux, Seine, France, have invented new and useful Improvements in Protecting-Shields for Light Ordnance, of which the following is a specification.

This invention relates to improvements in protecting shields or cupolas for light ordnance, and consists in a form of turnable shield or cupola for machine guns or light ordnance, capable of being operated on a vibratory and unstable foundation or seat for example on the roof of a vehicle or on the armored superstructures of iron-clad vessels.

Similar to cupolas actually in use the improved cupola is formed by a cylinder of armor plate closed at its upper part by a cover. Its essential features are the following: 1. Rotation of the cupola on a central pivot formed by a vertical extensible axle fixed at its upper end to the cover, the lower extremity of the axle turning on a fixed plate and provided with means preventing its disengagement from its socket. 2. Immobility of the cupola by pressure of the latter on a crown of the seat formed by a circular ring of compressible substance offering a great resistance to slipping, such as leather or caoutchouc for example.

By lengthening the axle the cupola is lifted and can turn freely without rubbing on the compressible crown of the seat. By shortening the axle the cupola compresses the crown of the seat and the adherence which results suffices to hold it fixed, for the purpose of shooting. The variations of the length of the axle are obtained by appropriate mechanical means according to circumstances, screw, cam eccentric governed by lever, etc.

The annexed drawings represent by way of example a form of construction of the invention in which the cupola is armed with a gun placed away from the axis of rotation.

Figure 1 is a longitudinal sectional elevation. Fig. 2 is a central vertical cross-section. Fig. 3 is a plan view with parts shown in section. Fig. 4 represents by way of demonstration the application of the cupola on an automobile of war.

Referring to the drawings, the cupola *g* constructed of sheet metal is fixed at its center and at its upper part at *h* on the tubular part *a'* of the vertical pivot; it is further attached to the lower part of this tube *a'* by two stays or curved struts. The pivot is

formed of two parts *a'* and *a* arranged to slide the one on the other; the part *a'* is fixed to the cupola as has been described, while the part *a* rests on the lower part on a socket carried by a plate fixed and arranged in a box *b* which serves to clasp the extremity of the pivot and to prevent its lifting.

At a convenient height for maneuvering purposes the exterior tubular part *a'* of the pivot is provided with a threaded collar on which is mounted a screw wheel *f*; further, two guide slots *e* diametrically opposed, are arranged in the tube *a'* through which the extremities of two lugs *d* fixed to the central part *a* of the pivot pass; these lugs are situated at such distance apart so as to exactly embrace the screw *f*.

It can readily be understood that if the screw wheel *f* is turned in the one or other direction, as it is prevented from vertical displacement by the lugs *d* it causes the threaded part *a'* and in consequence the cupola *g* to rise or descend.

The cupola has its seat on the top or roof of the turret or structure of sheet metal *l* with the aid of a circular abutment *n* and of a compressible crown *o*. The roof *l* is further provided with a flange or angle piece *p* against the vertical part of which horizontal rollers *q* bear the axles of which are carried by the cupola.

The gun *m* arranged away from the axis of the cupola is mounted on a support connected to a cross piece *j* which carries the mechanism *k* for the vertical aiming of the gun.

It can be seen that with this cupola, operation of the same is most simple, and is not hindered by the vibrations or unstableness of the seat of the cupola. For aiming, the screw wheel *f* is turned so as to lift the cupola, which can then be turned with the greatest facility around its pivot until the convenient direction is obtained; the wheel *f* is then turned in the contrary direction so as to cause the abutment *n* of the cupola to rest on the compressible crown *o*; the cupola is immediately held fast and the gun can be used without the slightest rotation of the cupola resulting.

Fig. 4 shows the application of the described cupola to an automobile of war. The vehicle is provided with a bullet proof armoring 1. The cupola is placed towards the back, while towards the front are arranged seats 2 for the driver and commander.

3 is the ammunition room. The radiator 4 is protected by fixed armor plates which allow the passage of the air, and prevent the passage of bullets. A signal lamp 5 is arranged in the interior of the covering; its light may be hidden by means of a shutter blind sliding in guides. At the front of the vehicle is an observation shutter 6 which can be shut instantly. Finally the vehicle carries two rails of U-section 7, hung one on each side of the said vehicle and intended to serve as a bridge for the passage over ditches. When in use these rails are united and maintained at the necessary distance apart by stays which hook into each of them.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

A cupola for machine guns or light ordnance comprising a lower steady platform,—a circular cupola of sheet metal *g*,—a pivot shaft arranged between the cupola and the steady platform and formed of two parts *a* and *a'* sliding the one on the other,—means for securing the tubular part *a'* on the roofing

of the cupola,—means for attaching the lower end of the part *a* on the platform to prevent the raising of said part though it is allowed to rotate,—two lugs *d* fixed across the top of part *a*,—two vertical slots *e* made in the tubular part *a'* and in which are adapted to move the lugs *d*,—a threading provided on the outside of part *a'*,—a hand nut *f* mounted on the threaded part of *a'* between the ends of the lugs *d*,—a turret or structure of sheet metal *x*,—a roofing *l* for said turret,—a compressible crown *o* carried by said roofing,—and a circular flange *n* carried by the cupola which presses the crown *o* when the central pivot of the cupola is shortened substantially as described and for the purpose set forth.

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

FERDINAND CHARRON

Witnesses:

ANTOINE LAVOIX,
HANSON C. COXE.