

# PATENT SPECIFICATION

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## COMPLETE SPECIFICATION.

### Improvements in Grenades.

We, ALBERT DEWANDRE, of No. 24, rue de Surène, Paris, France, Engineer, and JULES DE LAMINNE, of No. 10, Place Édouard VII, Paris, France, Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

10 This invention comprises the adaptation to the body of a grenade having a spring impelled striker which is controlled by a lever adapted to be released by the hand or projecting appliance in the act of  
15 throwing or projecting the grenade, of projecting circular ribs for enabling the grenade to be thrown at will by hand or by means of a firearm, the external diameter of said ribs corresponding to the  
20 internal diameter of the firearm.

Reference will now be made to the accompanying drawings:

Fig. 1 is an elevation, and

25 Fig. 2 is a plan of the grenade drawn to an enlarged scale.

Fig. 3 shows the grenade in position in a firearm of the blunderbuss type, ready to be fired out of the same.

30 Fig. 4 shows this grenade issuing from the firearm.

Fig. 5 shows the device for locking the retaining lever.

35 As shown in the drawings, the main body *a* of the grenade has in its lower part a screw-threaded hole through which the igniting apparatus is inserted; this hole is closed by means of a plug *a*<sup>2</sup>. The upper part of the body *a* has two other orifices, namely, an orifice for the passage  
40 of the head of the striker and an orifice closed by a plug *c*, through which the explosive charge is introduced.

45 The striker is held in its cocked position by a lever *m* composed of a curved elastic strip having two small trunnion pins engaged in two bearings *a*<sup>4</sup> formed in two bosses *a*<sup>5</sup> of the body *a* of the grenade (Fig. 2). One end of the lever *m* has a notch designed to engage the striker  
50 underneath its head *i*<sup>2</sup>. The long arm

of the lever *m* is adapted to fold down along and against the body *a* of the grenade in the cocked position of the striker.

55 A retaining pin *n* engaged in holes formed in the bosses *a*<sup>5</sup> of the body *a*, serves to lock the lever *m* in the position in which it keeps the striker cocked.

60 This pin *n* is provided preferably with a ring *n*<sup>1</sup>. In the inoperative position of the grenade, whilst the striker is cocked, this ring is folded down and engaged forcibly upon the bosses *a*<sup>5</sup> of the body of the grenade in such a manner  
65 as to prevent any accidental displacement of the pin *n*.

70 The lever *m* is of a determined curved shape such that in the cocked position of the striker, the end of the long arm of this lever will be in permanent contact with the body of the grenade, and its curved portion will by reason of its elasticity, exert upon the pin *n* a pressure that will prevent any accidental disengagement of the said pin.

75 In order that the grenade shall be capable of being thrown at will either by hand or by means of a blunderbuss-like firearm, the body *a* of the grenade has two projecting annular ribs *a*<sup>6</sup> *a*<sup>7</sup>  
80 which are turned on their peripheries and have an outer diameter corresponding to the inner diameter of the blunderbuss *s* as shown in Fig. 3. The upper rib *a*<sup>6</sup> has a notch which allows the lever *m* to  
85 be sunk relatively to the projection constituted by these ribs.

The operation of this grenade is as follows:—

90 The grenade having been charged, the striker is held in the cocked position by the lever *m* which is locked by the pin *n*.

95 In this position, the long arm of this lever *m* is in permanent contact with the body *a* of the grenade and the curved portion of the said lever presses upon the locking pin *n*. Under these conditions, when the grenade is handled, no movement can be communicated to the lever *m*; the pin *n* is locked by the pressure exerted  
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upon it by the curved portion of the lever. This pin is further held by the engagement of the ring  $n^1$  upon the bosses  $a^5$  of the body  $a$  of the grenade (Fig. 5). Consequently no accidental disengagement of the pin  $n$  can ever be produced. This arrangement therefore provides absolute safety.

When the grenade is to be thrown by hand it is grasped in such a manner as to keep the lever  $m$  down against the body of the grenade. Then the retaining pin  $n$  is withdrawn, and the lever  $m$  being still held down against the body of the grenade by the pressure of the hand, the striker remains cocked. The grenade is thus ready for throwing.

If the grenade is to be thrown by means of a blunderbuss, the retaining pin  $n$  is withdrawn only after the grenade has been inserted in the blunderbuss as shown in Fig. 3, so that the lever  $m$  will always be kept down against the body of the grenade by the side of the blunderbuss.

As soon as the grenade has been thrown, either by hand or by means of the blunderbuss, the lever  $m$ , being thus released, releases in its turn the striker, which latter strikes the percussion cap.

It has been previously proposed in grenades intended for discharge from a

socket at the muzzle of a gun, but not provided with a spring striker controlled by an external lever, to make the grenade body with two projecting annular ribs. 35

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:— 40

1. The adaptation to the body of a grenade having a spring impelled striker which is controlled by a lever adapted to be released by the hand or projecting appliance in the act of throwing or projecting the grenade, of projecting circular ribs for enabling the grenade to be thrown at will by hand or by means of a firearm, the external diameter of said ribs corresponding to the internal diameter of the firearm. 45 50

2. The improved grenade constructed and operating substantially as hereinbefore described and also as illustrated in the accompanying drawings. 55

Dated this 16th day of April, 1917.

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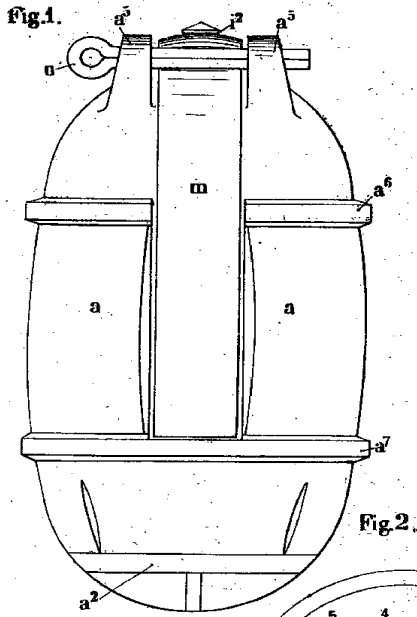


Fig. 2.

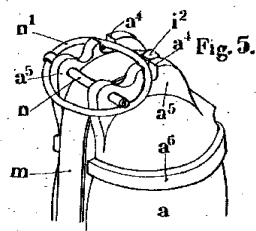
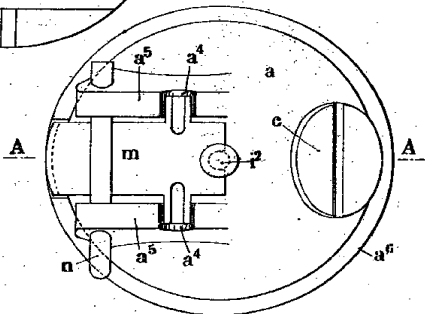


Fig. 3.

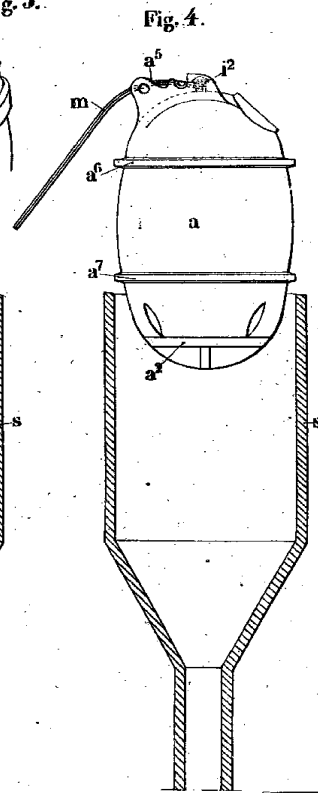
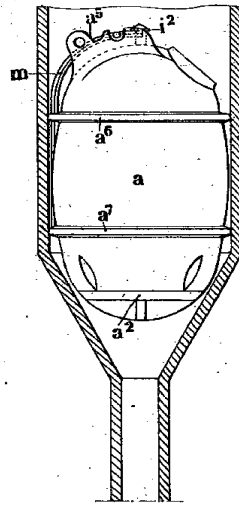


Fig. 4.

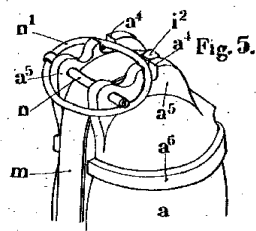
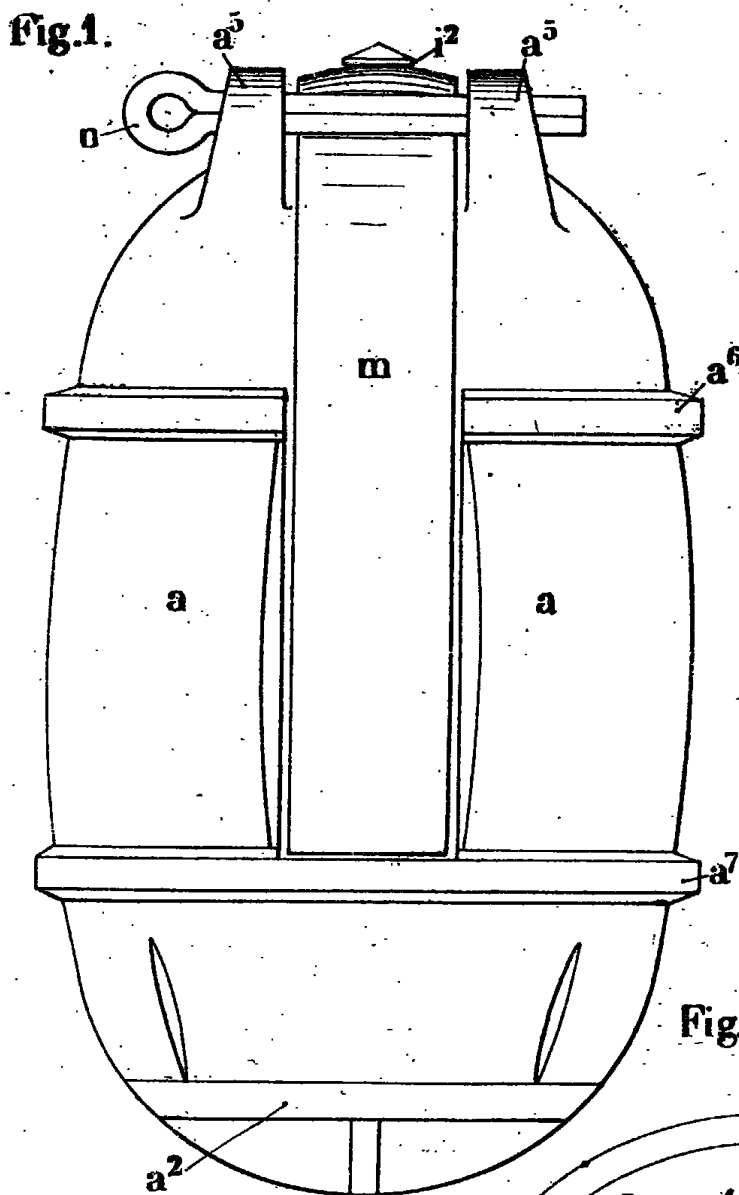


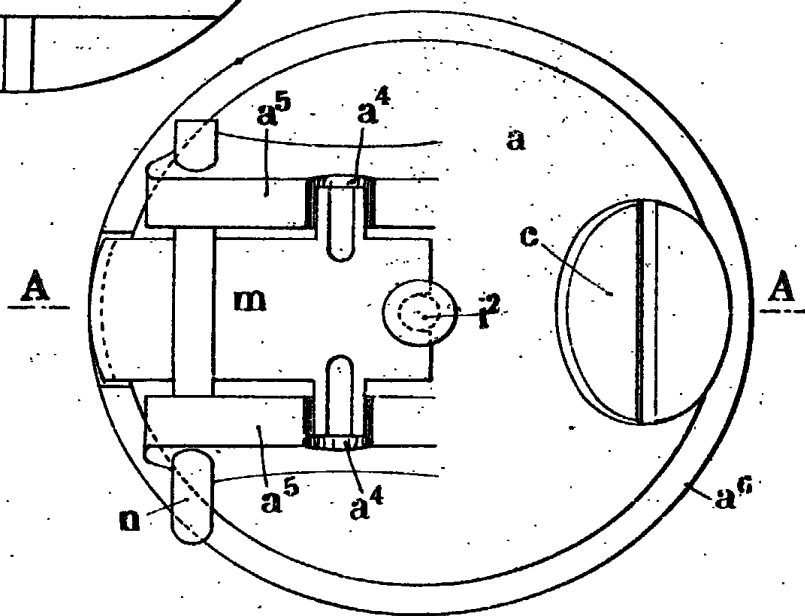
Fig. 5.

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[This Drawing is a reproduction of the Original on a reduced scale.]



**Fig. 2.**



[This Drawing is a reproduction of the Original on a reduced scale.]

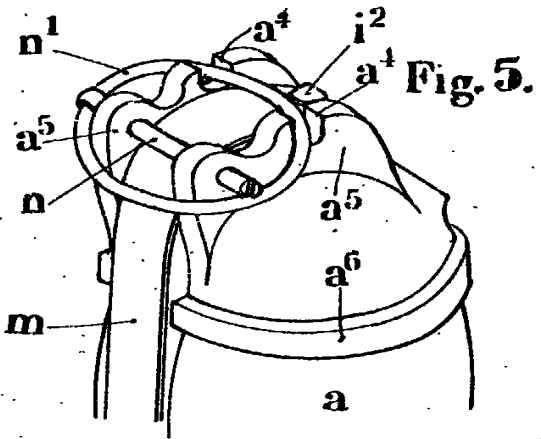
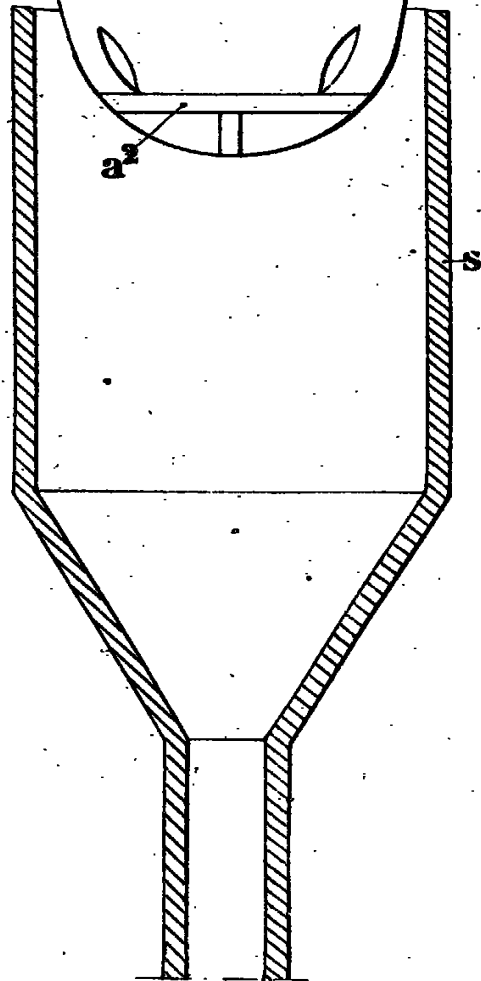
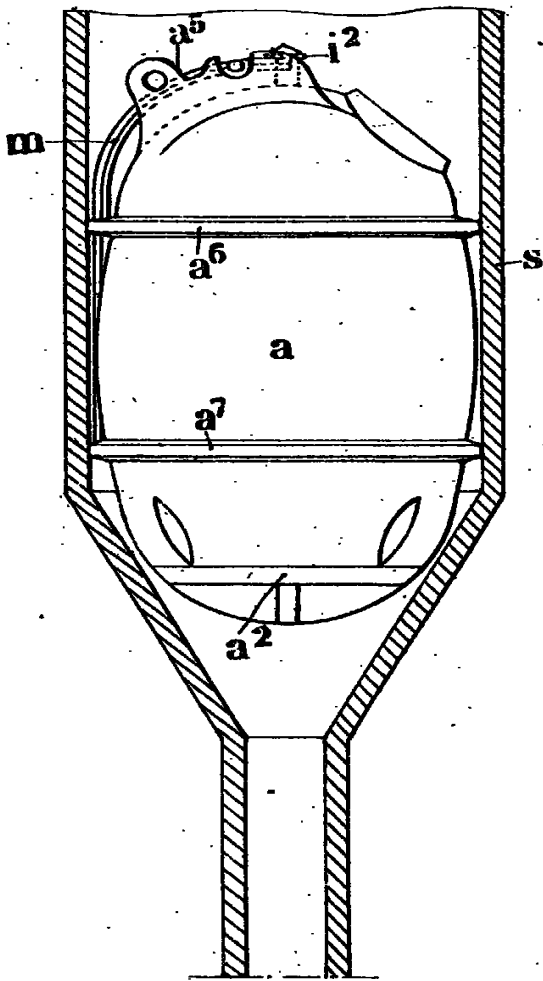
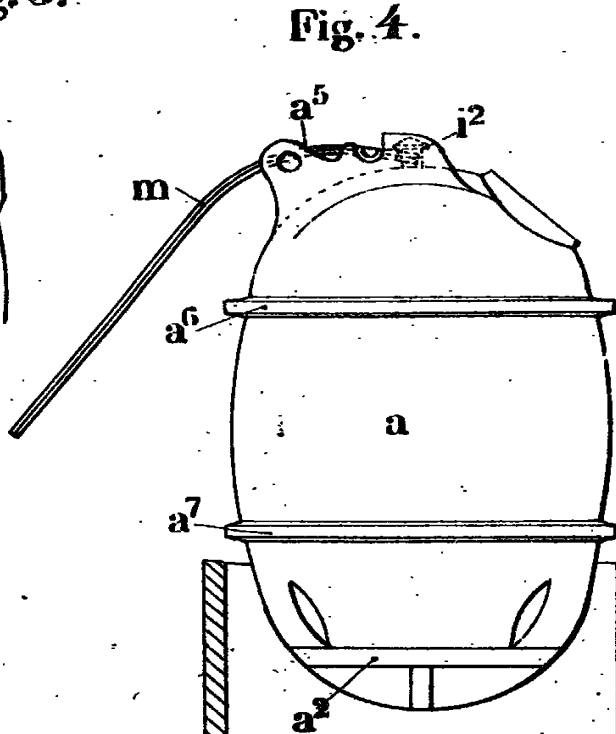


Fig. 3.



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