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PATENTED FEB. 5, 1907.

E. OLSSON.

AUTOMATIC EXTRACTOR FOR DETONATING CARTRIDGES IN BREECH
LOADING GUNS.

APPLICATION FILED JUNE 1, 1906.

Fig. 1.

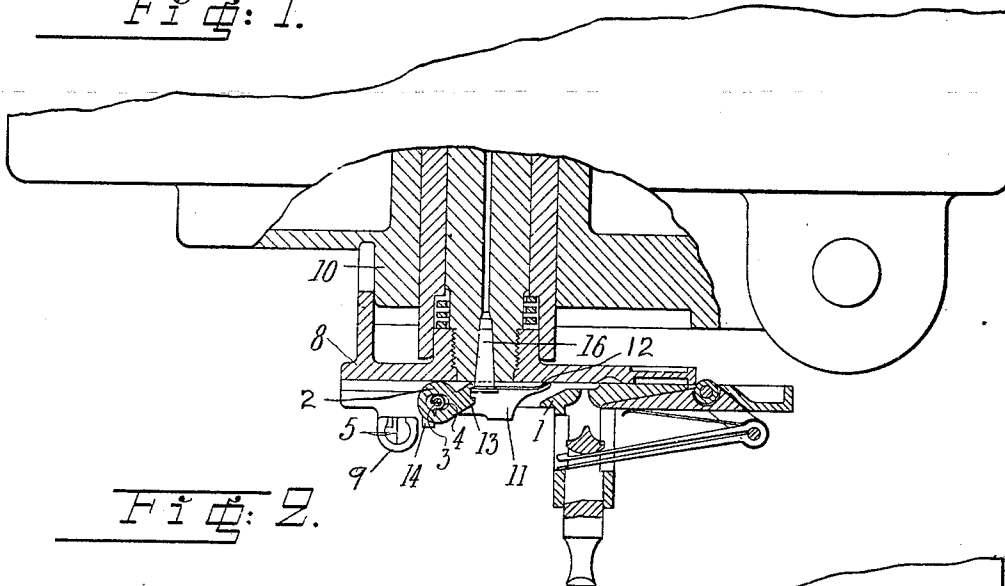


Fig. 2.

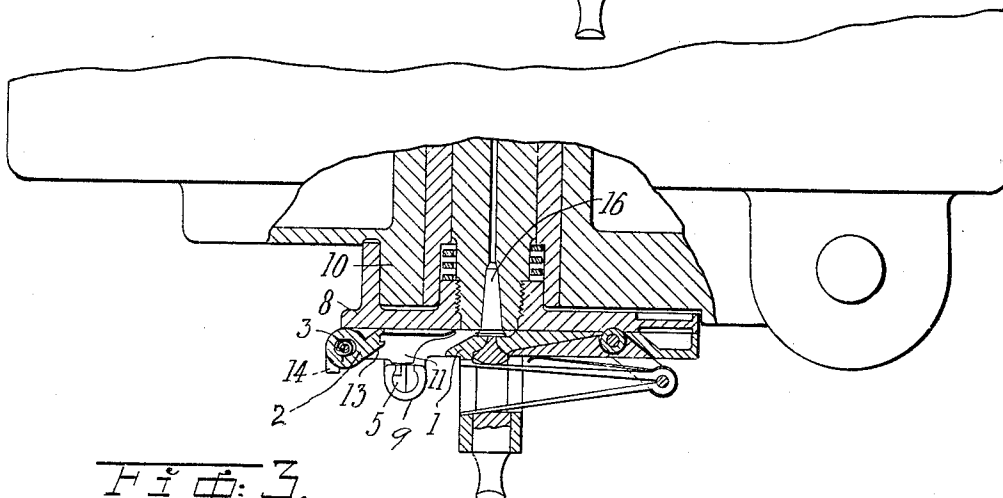
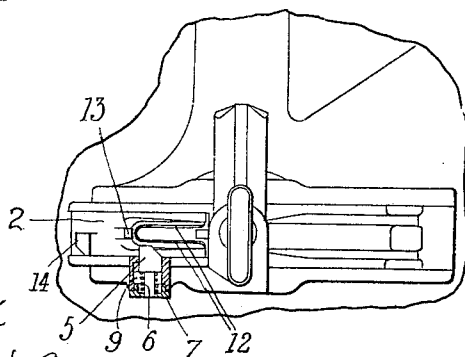


Fig. 3.



WITNESSES

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AUTOMATIC EXTRACTOR FOR DETONATING CARTRIDGES IN BREECH-LOADING GUNS.

No. 843,231.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed June 1, 1906. Serial No. 319,798.

To all whom it may concern:

Be it known that I, EMIL OLSSON, engineer, a subject of Sweden, residing at Bofors, in the county of Nora, Kingdom of Sweden, have invented new and useful Improvements in Automatic Extractors for the Detonating Cartridges in Breech-Loading Guns, of which the following is a specification.

This invention relates to an automatically-operating extractor for the detonating cartridges in breech-loading guns.

This extractor is illustrated in the accompanying drawings in connection with the rear portion of the barrel of the gun in two different positions in longitudinal section in Figures 1 and 2, while Fig. 3 shows the same, together with the adjoining portion of the barrel, viewed from behind.

The extractor consists of a lever 2, one end of which is slidably journaled on a shaft 3, secured to a slide 1, which can be shifted radially in relation to the barrel of the gun in a guide 8 on the rear surface of the breech-screw 10. The lever 2 is held by a spring 4 in such a position in relation to the shaft 3 that the said lever normally bears on the guide 8. The latter is provided on one side of the path in which the slide travels with a rearwardly-pointing lug 9, in which a check-bolt 5 is movable at right angles to the path of slide 1 under the influence of a spring 6, bearing on a nut 7. The lever 2 is provided with two parallel wedge-shaped branches or jaws 12, the inner edges of which are shaped to conform to the rim of the detonating cartridge. The branch or jaw adjoining the check-bolt 5 (the lower branch) is provided with a lug 11, bearing on the check-bolt 5 when the breech is closed, Fig. 2. Between the branches 12 there is on the lever 2 a lug or projection 13, pointing toward the axis of the gun, and on the other side of the axis of rotation of the lever is a rearwardly-pointing lug 14, which strikes against the check-bolt 5 when the extractor is carried inward from the position shown in Fig. 2 to that shown in Fig. 1. The aperture in the lever 2, embracing the shaft 3, is oblong, so that the lever can be shifted slightly in its longitudinal direction on the shaft. The spring 4 with its inner end is inserted into a groove on the shaft 3, which cannot be rotated in the slide, and with its outer end into a slot in the lever 2, so that it strives not only to swing the branches of the

lever 2 in toward the guide 8, but also to push the said lever forward in a direction against the axis of the gun.

The extractor operates as follows: In the opening of the breech mechanism on the discharge of the gun the slide 1 will be shifted in the guide 8 from the position shown in Fig. 2 to that shown in Fig. 1, in this movement carrying with it the lever 2, so that the branches 12 of the latter will be wedged in inside of the rim of the detonating cartridge and release the said cartridge with great force. When the lug 14 of the lever in the continued movement strikes the check-bolt 5, the arm 2 will be forced to turn on the shaft 3, and as a result the lug will be freed from the bolt and the detonating cartridge be extracted and ejected. When the breech is fully open, the lever will occupy the position shown in Fig. 1. When a fresh detonating cartridge is subsequently applied, the lever 2 yields and is forced back by the rim of the cartridge sliding on the oblique surface of the lug or projection 13; but after the rim has passed this lug and struck the branches 12 the lever will be forced back into its former position by the spring 4, so that the lug 13 places itself behind the cartridge-rim and prevents the ejection of the cartridge by the air-pressure produced in the closing of the breech, Fig. 1. When the breech is closed and the breech-screw is being turned, the slide 1 will be returned, carrying with it the lever 2, so that the check-bolt 5 will be forced in by the lug 14 as the latter is passing the oblique surface of the bolt, the bolt being subsequently pushed forward once more by its spring. The lever will then assume the position shown in Figs. 2 and 3.

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

1. An automatic extractor for cartridges in breech-loading guns, comprising a spring-actuated lever, a slide, a shaft carried by said slide, said lever being rotatably and shiftably mounted on the shaft, said lever having two jaws narrowing toward their ends and adapted when shifted in one direction to enter inside of the rim of the cartridge, a lug 14 on said lever being its fulcrum and a check-bolt adapted to engage with the said lug to swing the lever to eject the cartridge.

2. An automatic extractor for breech-loading guns, comprising a slide movable diametrically in the rear plane of the breech-screw, a shaft carried by said slide, a lever
5 rotatably and shiftably mounted on said shaft, a spring controlling the rotatable movement of said lever, two jaws on said lever, a lug 14 on said lever to the rear of its fulcrum, a check-bolt adapted to engage
10 with said lug and a projection 13 on said lever said projections extending parallel to axis of the gun and on which the rim of the cartridge presses when inserted so that the

extractor is moved slightly aside to be subsequently returned by the spring after the rim has passed the projection, thus bringing the projection behind the cartridge and preventing its ejection by the air-pressure in the closing of the breech.

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

EMIL OLSSON.

Witnesses:

KARL A. R. SVANBERG,
VICTOR HAMMAR.