A. PROVAGLIO.

PISTOL.

APPLICATION FILED APR. 5, 1906

985,632.

Patented Feb. 28, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

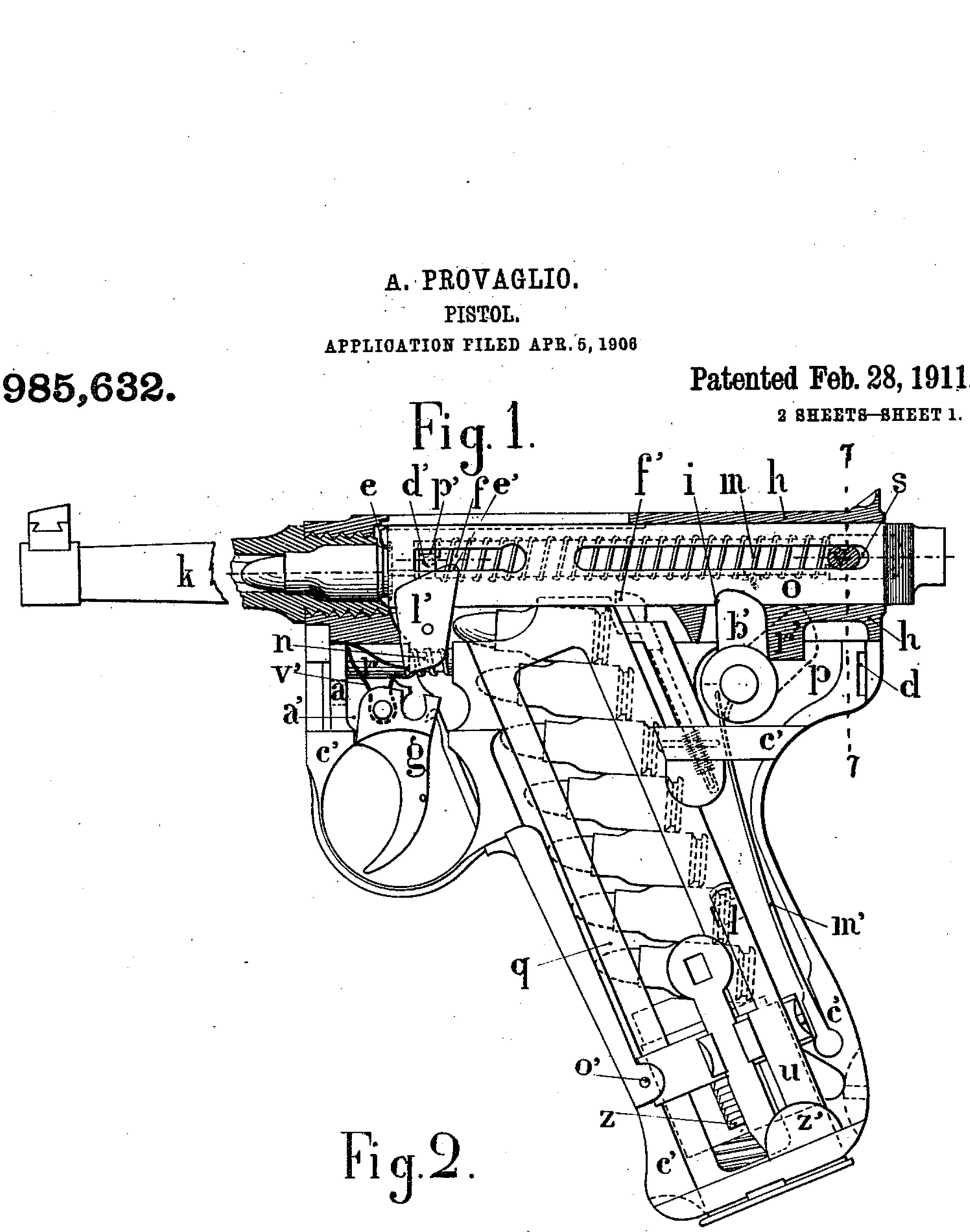
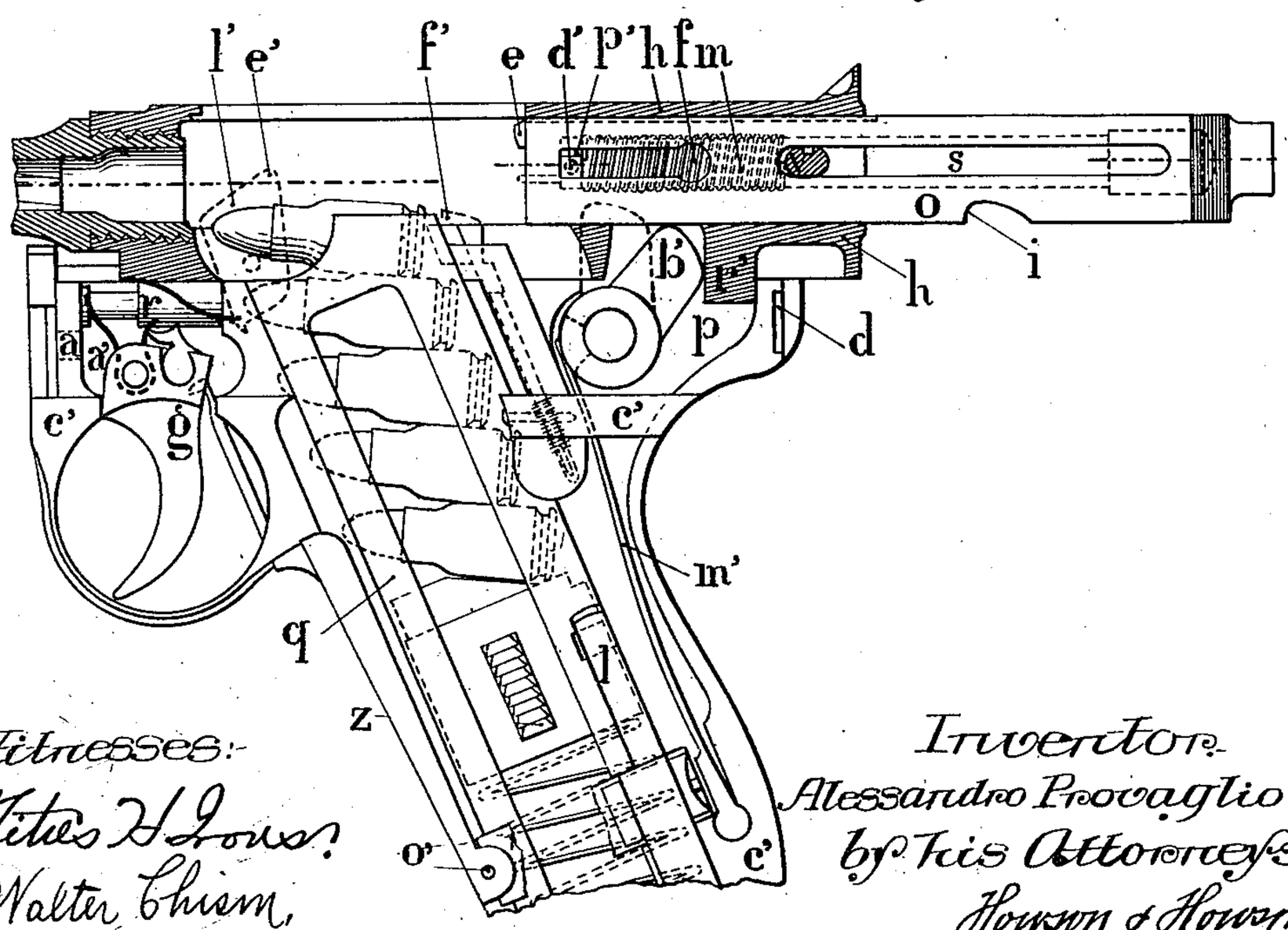


Fig. 2.



Witnesses:-

Titus H. Howson.

Walter Chism.

Inventor.

Alessandro Provaglio.

by his Attorneys.

Howson & Howson

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2 SHEETS—SHEET 2.

Fig. 3.

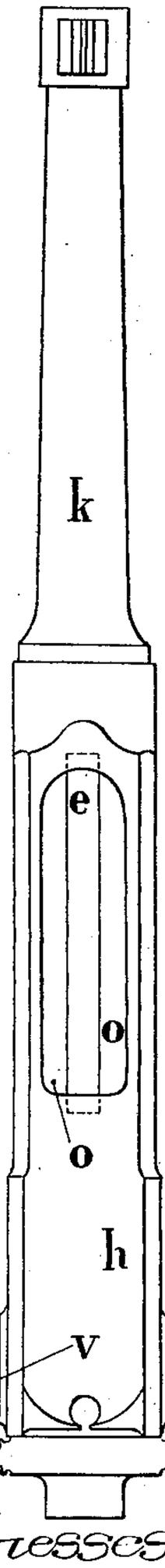


Fig. 5.

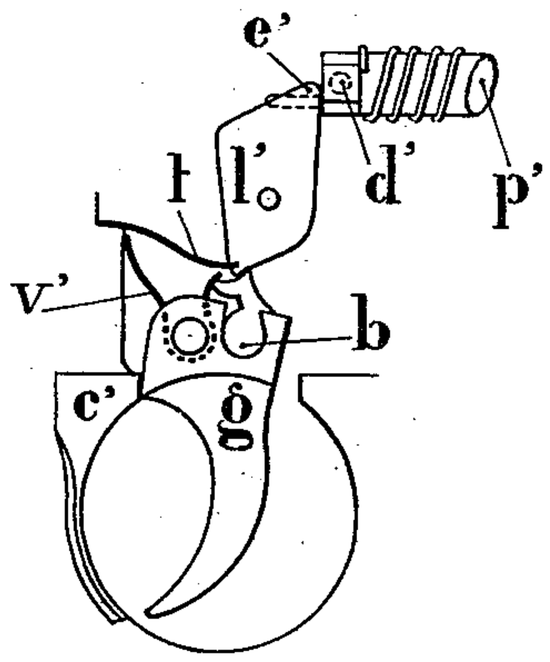


Fig. 6.

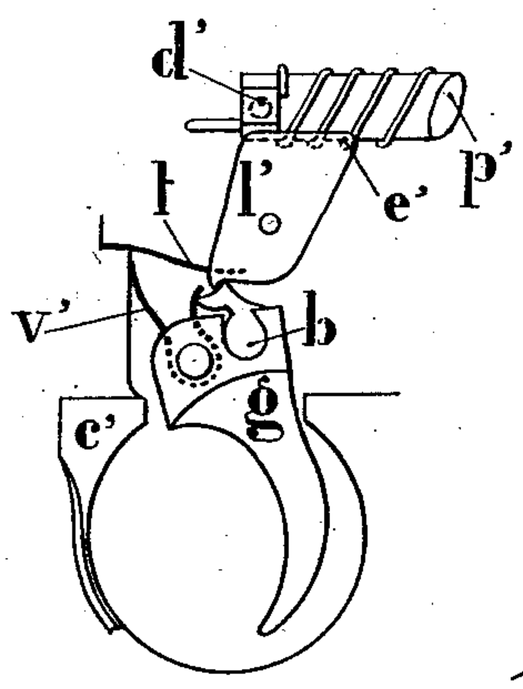


Fig. 4.

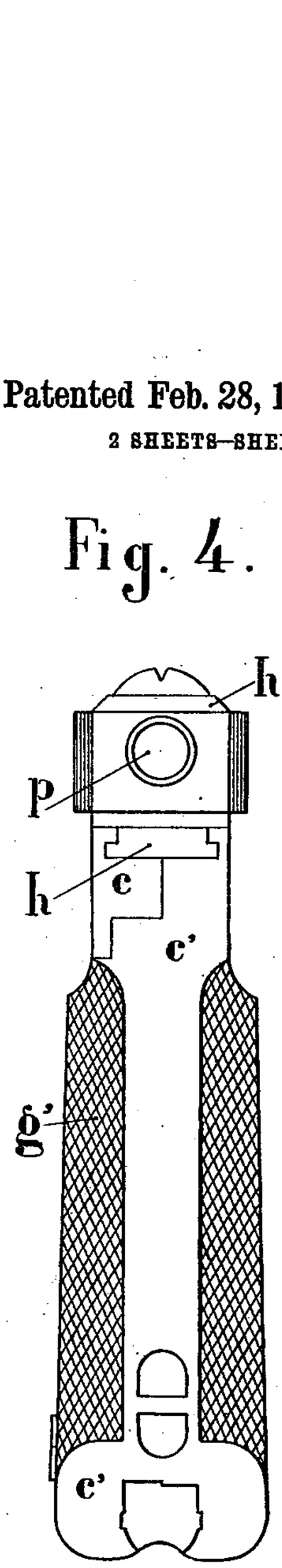
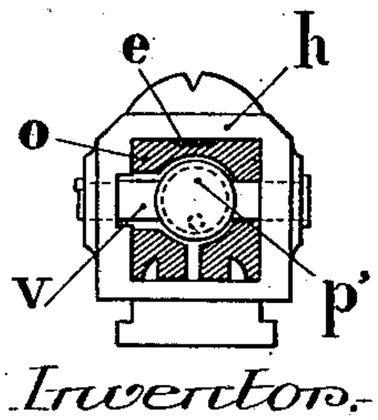


Fig. 7.



Witnesses:
Titus H. Lows.
Walter C. Hum.

Inventor:
Alessandro Provaglio.
by his Attorneys,
Howson & Howson

UNITED STATES PATENT OFFICE.

ALESSANDRO PROVAGLIO, OF CARCINA, ITALY, ASSIGNOR TO METALLURGICA BRECIANA GIA TEMPINI, OF BRESCIA, ITALY.

PISTOL.

985,632. Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed April 5, 1906. Serial No. 310,185.

To all whom it may concern:

Be it known that I, ALESSANDRO PROVAGLIO, a subject of the King of Italy, residing at Carcina, Province of Brescia, Italy, have invented certain Improvements in Pistols, of which the following is a specification.

This invention has for its object the provision of an automatic action for a pistol, the arrangement of parts being such that the barrel shall recoil during a small portion of the recoil movement, it being also desired to provide means for temporarily locking the barrel to the breech block, which shall permit said block to pivot on a structure fixed in the frame.

In order to allow of the following specification being easily understood, reference will now be made to the accompanying drawings, in which:

Figure 1 is a side elevation view of the pistol partly in vertical section, the cover plate and the left hand side plate being removed. It is assumed that the magazine is fully inserted in the pistol, while the breech block is closed and the striker is uncocked; Fig. 2 is a similar view to Fig. 1, illustrating the breech block as withdrawn and the spiral recoil spring compressed to the maximum degree; Fig. 3 is a plan of the pistol when closed; Fig. 4 is a rear elevation of the pistol, from which the magazine is omitted; Fig. 5 shows the firing device with its parts in the positions occupied ready for firing a shot; Fig. 6 shows the device illustrated in Fig. 5 but with its parts in the positions occupied after the shot has been fired; and Fig. 7 is a vertical section on the line 7—7, Fig. 1, of the barrel extension, with the breech block shown in section.

Description of the weapon.—The pistol is composed of the frame c', the barrel k, which arrangement is completed by a block screwed to the barrel extension h and the loading and firing mechanisms. As shown in Figs. 1, 2 and 4, the frame c' is of the ordinary shape, but is open at the left side, the opening, however, being normally closed by means of a side plate g', (Fig. 4), and a cover plate c. This latter, as shown in Fig. 4, is held at the rear end by a hook engaging in a recess d of the butt, and at the opposite end by means of a screw whose shank enters a cavity a in the frame, above the trigger guard. In the middle of the frame is placed the magazine q, and in the rear end thereof is a cavity p where is placed the locking arm b' and its flat spring m', (Figs. 1 and 2).

Above the frame is the barrel extension h, secured to the barrel k, it being free to slide to a limited extent and having the form of a parallelopipedon. Inside the barrel extension is the breech block o which is square in section, and has two slots s, one on each side, into which extends a pin v fixed transversely to the barrel extension. This pin and slot connection limits the backward movement of the breech block and at the same time is engaged by one end of a spiral spring m, which constantly presses forward the breech block o and the firing pin p'. Said firing pin is cylindrical in form and slides inside the breech block o, having, in correspondence with the slots of the latter, a relatively long slot for the passage of the pin v.

When the pistol is closed, the arm b', which is pivoted to the rear part of the frame, has its upper end constantly pressed forward, by the action of the flat spring m', against the notch i in the lower portion of the breech block, and backward against a projection r' of the barrel extension, so that the latter and the breech block are locked together, and thus, when a shot is fired, the pistol behaves as if it were provided with the ordinary rigid closing.

When the shot is fired, the barrel and its extension recoil together with the breech block for a limited distance, thereby turning the arm b' backward, and keeping it pressed against the projection r' of the barrel extension. At the end of the limited movement, the turning of the arm b' into the position shown in Fig. 2 leaves the breech block free to continue the remainder of the movement independently, during which movement it acts to extract the empty cartridge by means of the extractor e. As soon as the backward movement of the breech block has been completed, it is moved forward by the action of the spring m, and in so doing moves toward the chamber a new cartridge elevated by the spring of the magazine. As soon as the notch i reaches the arm b', the latter again turns forward, and allows the barrel extension and the barrel, as one piece, to return to the positions shown in Fig. 1, this movement being aided by a spiral spring n, which has been compressed

by the recoil of the barrel extension and is placed inside a projection *r*, (Figs. 1 and 2) formed underneath the barrel extension. As is evident from the foregoing description, this method of closing is totally different from those at present known, for the reason that the closing device is applied to the frame, instead of to the barrel extension or to the breech block, thereby permitting the use of simpler and more substantial mechanism than has hitherto been available.

The firing mechanism consists of the striker *p'*, which has screwed on its front part a head engaged by the spiral spring *m*. This head has screwed to it a tooth *d*, which slides in a slot *f* of the breech block. A lever *l'*, (Figs. 1, 2, 5 and 6) is pivoted on the upper part of the left side of the barrel extension in such manner that its upper part *e'* acts against the tooth *d'* when said lever is turned by a pawl *b* movable on the trigger *g*. This latter is pivoted in the frame and has a V-shaped flat spring *v'* which constantly presses it forward and the pawl backward.

When the weapon is closed and ready to fire, so that the parts are in the positions shown in Fig. 5, the pressing back of the trigger causes the pawl to be raised so as to turn the lever *l'*. As a result, the upper part *e'* of this latter, pressing against the tooth *d'*, moves the striker backward so as to compress the spring *m* and then finally releases it, thereby causing it to fire the cartridge, (Fig. 6). When the barrel recoils, it draws backward the lever *l'* which in this way is unlocked from the trigger, and by means of a suitable spring *t* its upper end *e'* is again returned to its raised or normal position. Under these conditions the said lever is ready to stop the tooth *d'* in the position corresponding to that in which the pistol is ready for firing another shot. The peculiarity of this mechanism consists in the fact that the lever *l'* is pivoted in the barrel extension, so that if this is not completely closed the trigger cannot act on the said lever and a shot cannot be fired.

The repeating mechanism consists of a magazine that may contain eight or more cartridges, and is inserted in the frame from its lower end. Inside of the magazine there slides vertically an elevator pressed constantly upward by an elliptical spiral spring. The peculiarity of this magazine consists in the fact that its sides are open, that is to say, each side has a relatively wide slot, so that it is easy to hold the elevator from opposite sides with the fingers when it is desired to introduce cartridges into the magazine, such holding being facilitated by grooves *z* in said elevator. The magazine is held in its place by a tooth *l* carried on a suitable lever *u*. The tooth *l* may be raised by pressing from the outside the button *z'* of the lever *u* and when this is done the magazine may then be withdrawn from the weapon.

When all the shots have been fired, the breech block will be caused to remain open by means of a suitable device, thereby giving indication that the magazine is empty. Such device in the present instance consists of an ejector *f'* sliding vertically in its own cavity of the frame, and constantly pressed downward by a small spiral spring. When the last cartridge has been fired, the elevator, which is provided at its rear end with a tooth, presses against an internal projection of the ejector *f'*, thereby raising the latter so that its front part is brought in front of the breech block and caused to lock it in its rear position.

I declare that what I claim is:—

The combination in an automatic pistol, of a magazine having a cartridge elevator, a spring for actuating the same, an ejector, a breech block operated by the recoil, and a spring normally maintaining the ejector in a position out of the path of movement of the breech block, said elevator being capable of engaging the ejector under the action of the elevator spring so as to force the ejector into the path of movement of the breech block and prevent the latter from moving into closed position after the last cartridge has been fired.

Signed by me at Milan in the Kingdom of Italy, this 16th day of March 1906.

ALESSANDRO PROVAGLIO.

Witnesses:
MICHELE DE DRAGO.
FUGINI, CARLO.