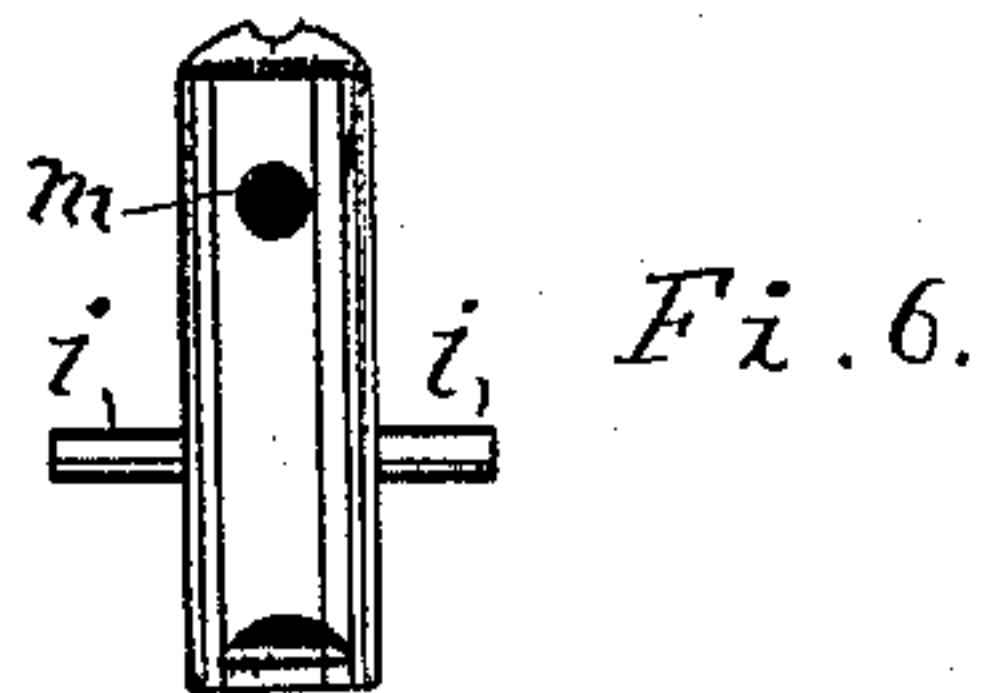
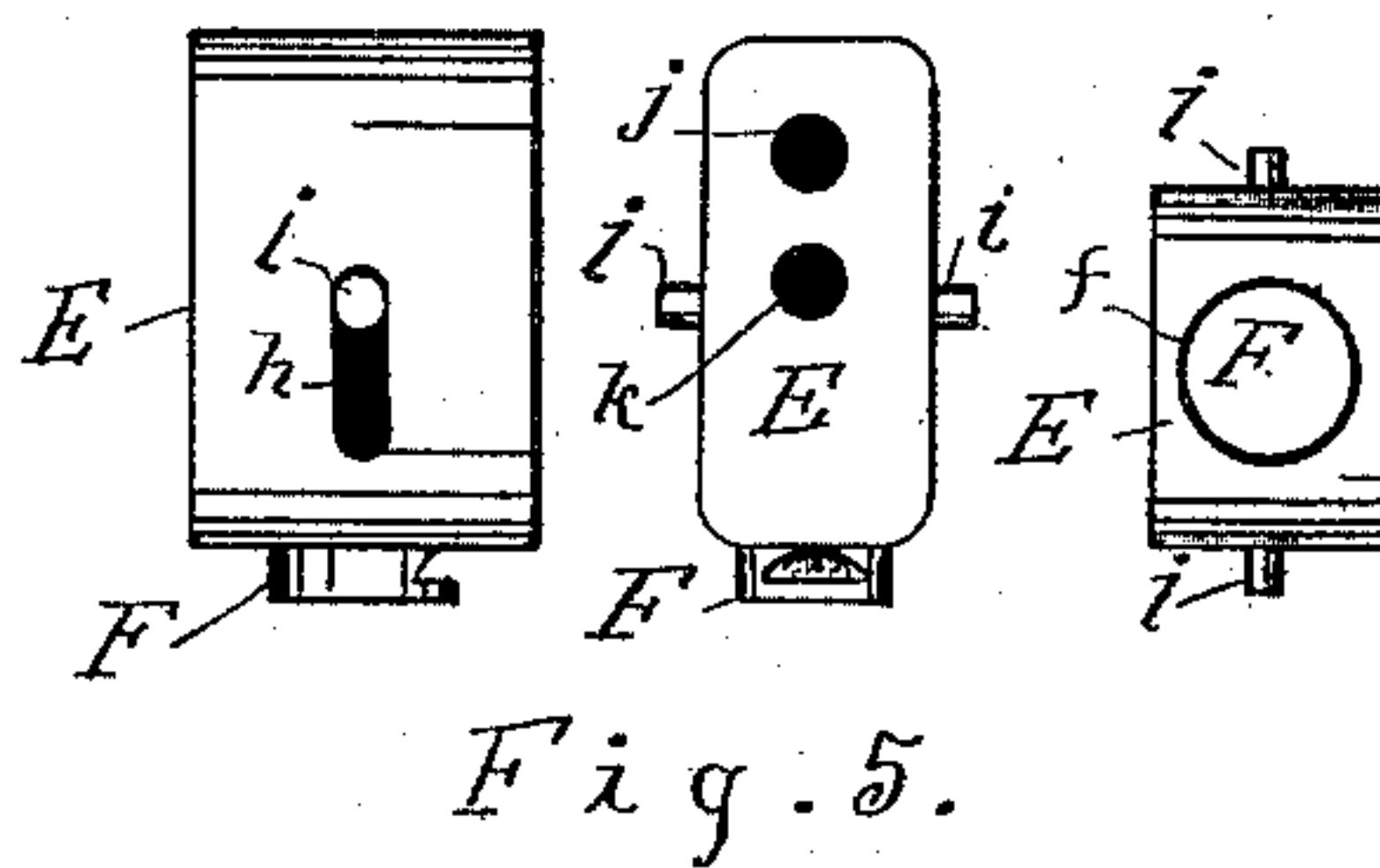
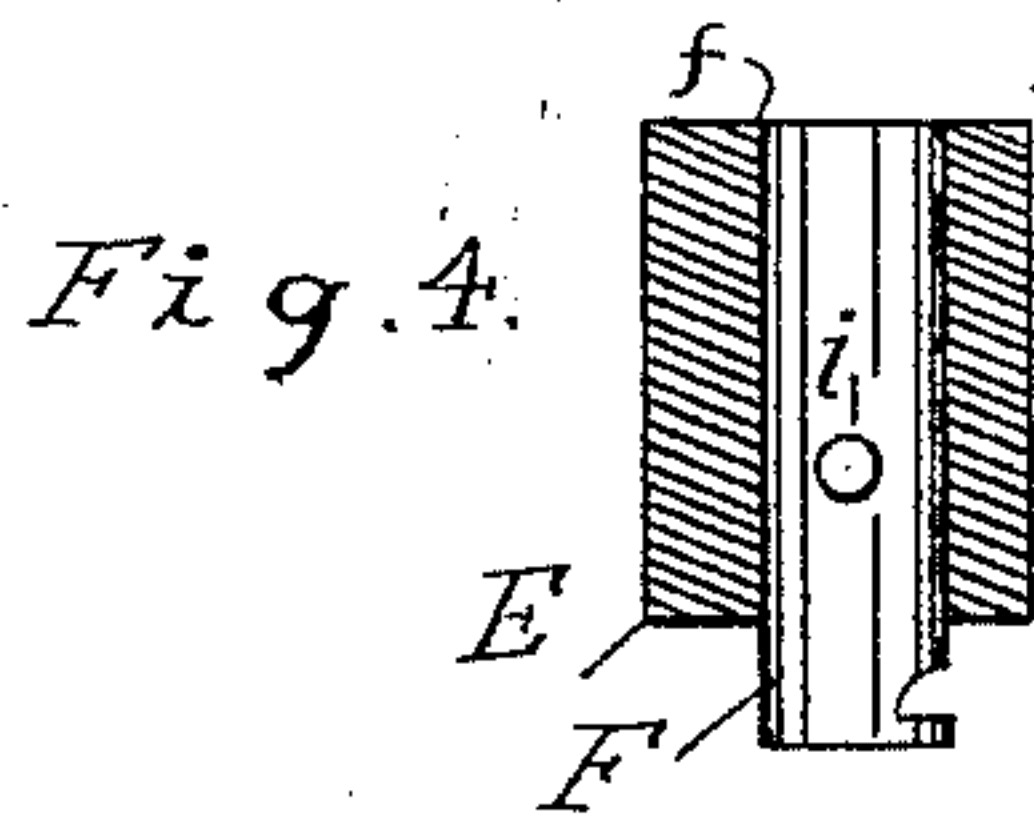
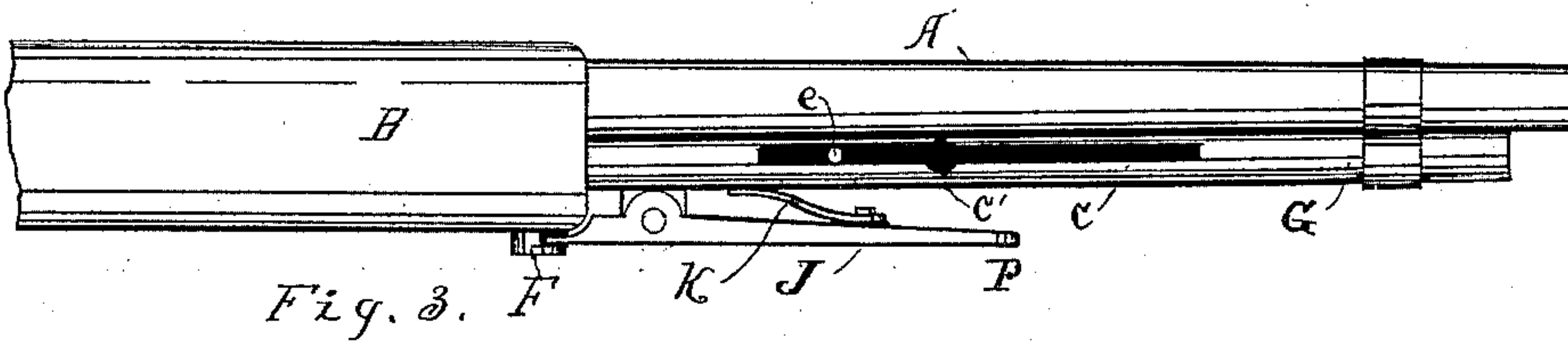
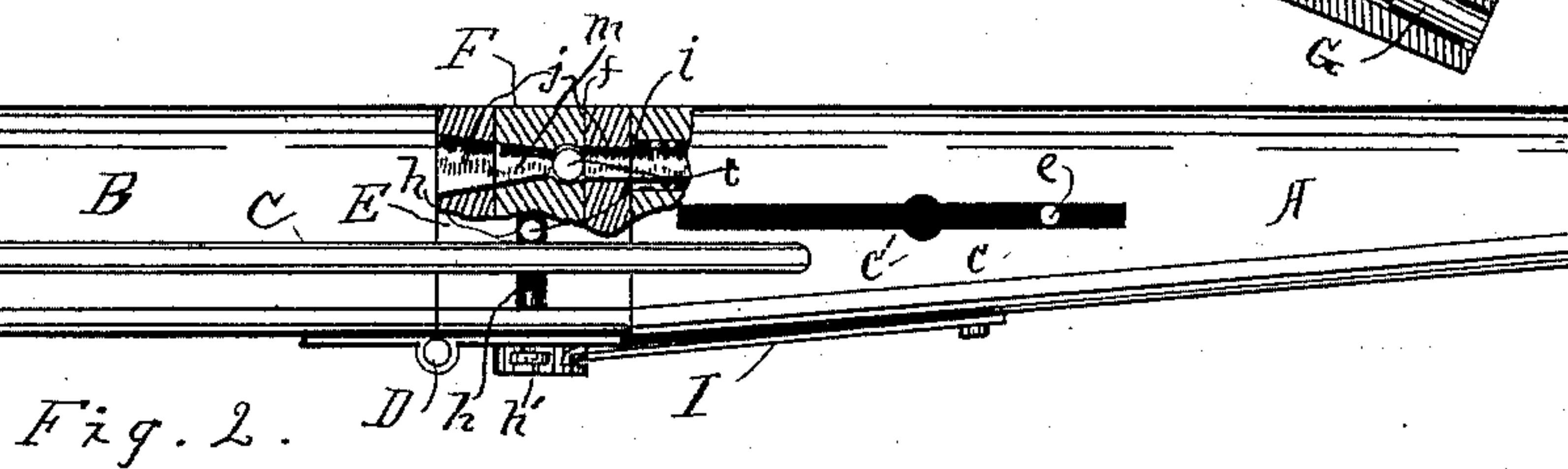
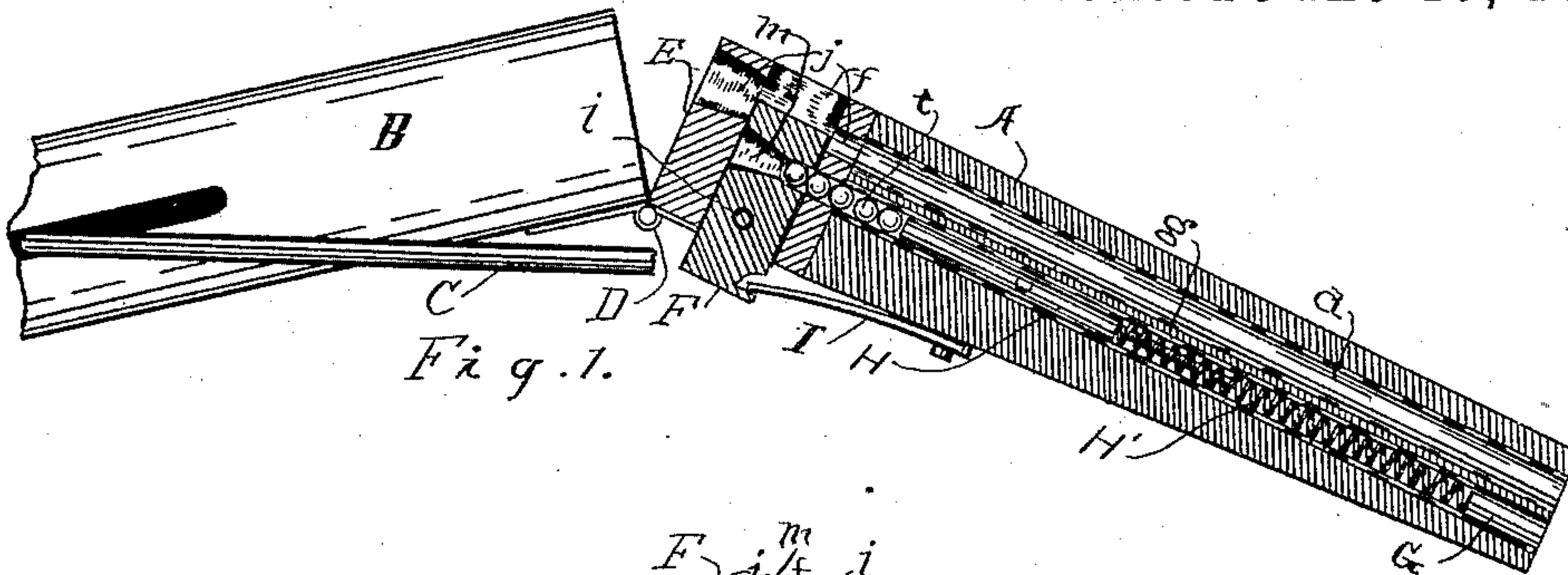


(No Model.)

A. J. EMLAW.
MAGAZINE SPRING AIR GUN.

No. 430,572.

Patented June 17, 1890.



WITNESSES:

A. M. Spaulding
Wm. Tate

INVENTOR

Andrew J. Emlaw
BY
Isidore J. Hilkey
ATTORNEY.

UNITED STATES PATENT OFFICE.

ANDREW J. EMLAW, OF GRAND HAVEN, MICHIGAN.

MAGAZINE SPRING AIR-GUN.

SPECIFICATION forming part of Letters Patent No. 430,572, dated June 17, 1890.

Application filed March 8, 1890. Serial No. 343,150. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. EMLAW, a citizen of the United States, residing at Grand Haven, in the county of Ottawa and State of Michigan, have invented a new and useful Improvement in Air-Guns, of which the following is a full and complete description.

My invention relates to improvements in target air-guns, in which an ordinary "B B" or other small shot is used as a projectile; and the objects of my invention are, first, to provide a storage-chamber for the shot; second, to provide a means of conducting the shot from the storage-chamber to the barrel of the gun; third, to avert the danger of more than one shot entering the passage-way from the storage chamber or magazine to the barrel at the same time, and, fourth, to avert the danger of the shot dropping out of the gun when being transferred from the magazine to the gun-barrel. I attain these results by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view of a wooden-barrel air-gun with my improvements attached in section, with the barrel thrown down, and the transfer mechanism in position to receive a shot from the magazine. Fig. 2 shows the barrel partially in section, with the transfer mechanism in position to deliver the shot into the barrel of the gun. Fig. 3 shows how my improvement may be attached to guns having metallic barrels. Fig. 4 is a vertical section of the block containing an elevation of the transfer-bolt. Fig. 5 is a detailed plan of the edge, the end, and the side of the block; and Fig. 6 is a front elevation of the transfer-bolt with sight.

Similar letters refer to similar parts throughout the several views.

The barrel A, breech B, charging-bar C, and hinge D are old in air-guns of this kind, and the block E, the transfer-bolt F, the magazine G, the slide H, the spring H', and the spring I constitute the main features of my invention, which consists in constructing a block E, having the peripheral form and size of the breech of the barrel and of a proper thickness to receive the transfer-bolt F, and provided with a hole *f*, passing through it

vertically, for the reception of the transfer-bolt, a slot *h* through it crosswise for the reception and free action of the pin *i* through the transfer-bolt, a hole *j* through it to form a breech for the passage of air and shot into the gun-barrel, and a parallel hole *k*, which extends from its front surface into the vertical hole *f* for the passage of shot from the magazine to the transfer-bolt. I secure this block to the breech of the gun-barrel in position, so that the holes *j* and *k* will be exactly in line with the bore *a* and *g* of the barrel and magazine, respectively. I then construct a transfer-bolt F, of a proper size and form to fit the hole *f* through the block closely and yet work freely therein, and a trifle longer than the vertical length of the block. This bolt is provided with a hole *m* through it, substantially of the form shown in Figs. 1 and 2, the front end of the hole being countersunk to a proper form and depth to receive a single shot, the lock end being tapering or funnel-shaped to facilitate the entrance of air, and the opening between the countersink and the funnel made a trifle smaller than a shot, so that there will be no danger of a shot sticking in or passing through the opening. This hole must be in a proper position, so that when the bolt is thrown to place, with the upper end level with the top of the gun-barrel, it will form a direct passage from the air-magazine to the gun-barrel, and when drawn down by the spring I, so that the pin *i* rests upon the end of the screw *h'*, the opening will be in direct line with the magazine-tube and stand in position to receive shot therefrom. I insert the pin *i* through the body of this bolt at right angles with the opening *m*, of sufficient length to extend through both sides of the block and project out over the charging-bars in position to bear upon the upper surface thereof and hold the bolt in place with the opening *m* exactly in line with the opening through the gun-barrel when the barrel is in position for shooting, and to rest upon the screw *h'* in the slot in the block, when the barrel is thrown down for loading the gun, and hold the bolt in position, so that the opening *m* will be exactly in line to receive shot from the magazine. The lower end of the bolt is provided with a catch, a notch,

a pin, or other suitable device to engage with the spring I for drawing the bolt down when the charging-bars are removed when throwing the barrel down to load and charge the
 5 gun. To draw the bolt down, I secure a spring I to the under side of the barrel, its free end engaging with the lower end of the bolt, the rebound of the free end of the spring being from the barrel and sufficient to draw and
 10 hold the bolt to position for receiving shot from the magazine when the charging-bars are removed from the pins *i*. I sometimes extend this bolt above the top of the barrel when in position for shooting, flatten the up-
 15 per end and form a notch for the purpose of utilizing it as a "sight" for aiming the gun.

For storing and loading the shot I place a magazine G below and parallel with the bore of the gun-barrel and provide it with a slide
 20 H and a spiral spring H' for forcing the shot toward the breech of the gun, a slot *c* for the passage of the handle *e*, and an enlarged aperture *c'* for inserting the shot. The slide H is provided with a handle or thumb-piece
 25 *e*, that extends out through the side of the magazine a convenient distance to be easily accessible to the operator. For applying this device to an air-gun having a metallic barrel, I find it necessary to make use of a lever J,
 30 with a spring K, arranged to throw the bolt up to position for shooting, the lever being used for drawing it down, as shown in Fig. 3, instead of drawing it down with the spring, as when applied upon a wooden gun. To
 35 load with this appliance the slide H is drawn back by the thumb-piece *e*, the shot passed into the magazine through the aperture *c'*, and forced toward the breech of the gun by the slide H, actuated by the spiral spring H', so
 40 that when the gun-barrel is thrown down for the purpose of charging the air-chamber, the charging-rod C being removed from the pins *i*, the transfer-bolt is drawn down by the rebound of the spring I to a position to receive
 45 shot from the magazine, and when the gun-barrel is carried back to position for shooting the charging-bars are brought to bear upon the pins and force the transfer-bolt up and hold it to position for the direct passage of
 50 the shot from it to the bore of the gun-barrel; and when applied to a metallic gun I press upon the end P of the lever J to draw the transfer-bolt down, and allow the spring K to throw it back to place with the shot *t*.

55 The transfer-bolt may be operated in the breech of the gun-barrel direct without using the block; but I prefer the use of a metallic block, as it insures a more free action of the parts and produces better results.

60 For the purpose of controlling the action of the transfer-bolt and enabling me to stop it at a point where the shot-chamber *m* will stand exactly in line with the bore of the magazine, I drill a hole through the hinge D,
 65 cut a screw-thread therein, and insert a screw *h'* of sufficient length, so that the point may

be made to extend some little distance up into the slot *h* in the block to form a stop to meet the pins *i* in the transfer-bolt to stop the bolt at the desired position. 70

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, in an air-gun, of a barrel and breech, a charging-rod and air-chamber, with a magazine having a slot for manipulating the slide, and an aperture for introducing shot, a slide actuated by a spiral spring, said slide having a projecting thumb-piece, a transfer-bolt provided with an opening, one side of which is countersunk to receive shot, the other side funnel-shaped and the center small, a pin and a catch, a block having a vertical hole for the reception of the transfer-bolt, a hole in line with the bore of the barrel, the back end of which is funnel-shaped, a hole in line with the magazine, the latter hole extending through the front side of the block to the transfer-bolt hole and slots, and a lever and spring, substantially as and for the purpose set forth. 80 85 90

2. The combination, with an air-gun, of a magazine having a slide actuated by a spiral spring and provided with a thumb-piece, an aperture in the magazine for the introduction of shot, a slot for the passage of the slide thumb-piece, a block secured to the breech of the gun-barrel, provided with an aperture to form a continuation of the bore of the barrel, the back end of said aperture being funnel-shaped, an aperture in line with the magazine extending to the central aperture, a central aperture for the reception of the transfer-block, and slots through the sides extending to the central opening, a transfer-block having an opening for the shot and pins, a screw to control the action of the transfer-block, and a spring to draw the transfer-block out, substantially as specified. 95 100 105

3. The combination, with an air-gun, of a magazine having an aperture and a slot, a slide actuated by a spiral spring and a handle, a block for supporting the transfer-bolt, a transfer-bolt provided with a hole for receiving and discharging shot, a pin and a notch, and actuated by the charging-rod and a spring, and a sight upon the top of said bolt, substantially as and for the purpose set forth. 110 115

4. The combination, with an air-gun having a barrel, a breech, an air-cylinder, and spring, of a magazine having a slide actuated by a spring, a block for supporting the transfer-bolt, having an opening for the shot and actuated by a spring and lever, and a spring and lever for actuating said bolt, substantially as and for the purpose set forth. 120 125

ANDREW J. EMLAW.

In presence of—

ADOLPH LEITELT,
 ITHIEL J. CILLEY.