

No. 685,292.

Patented Oct. 29, 1901.

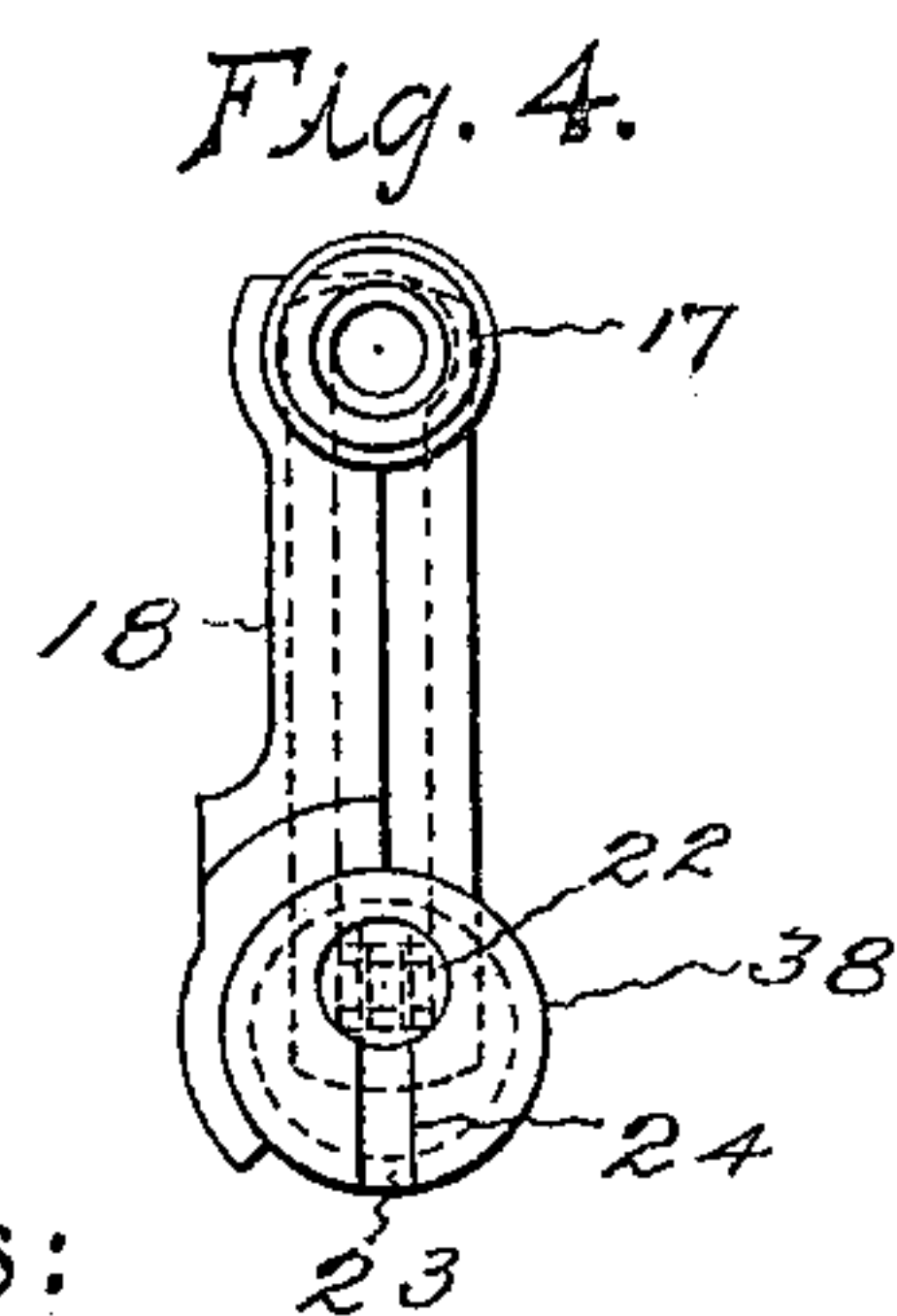
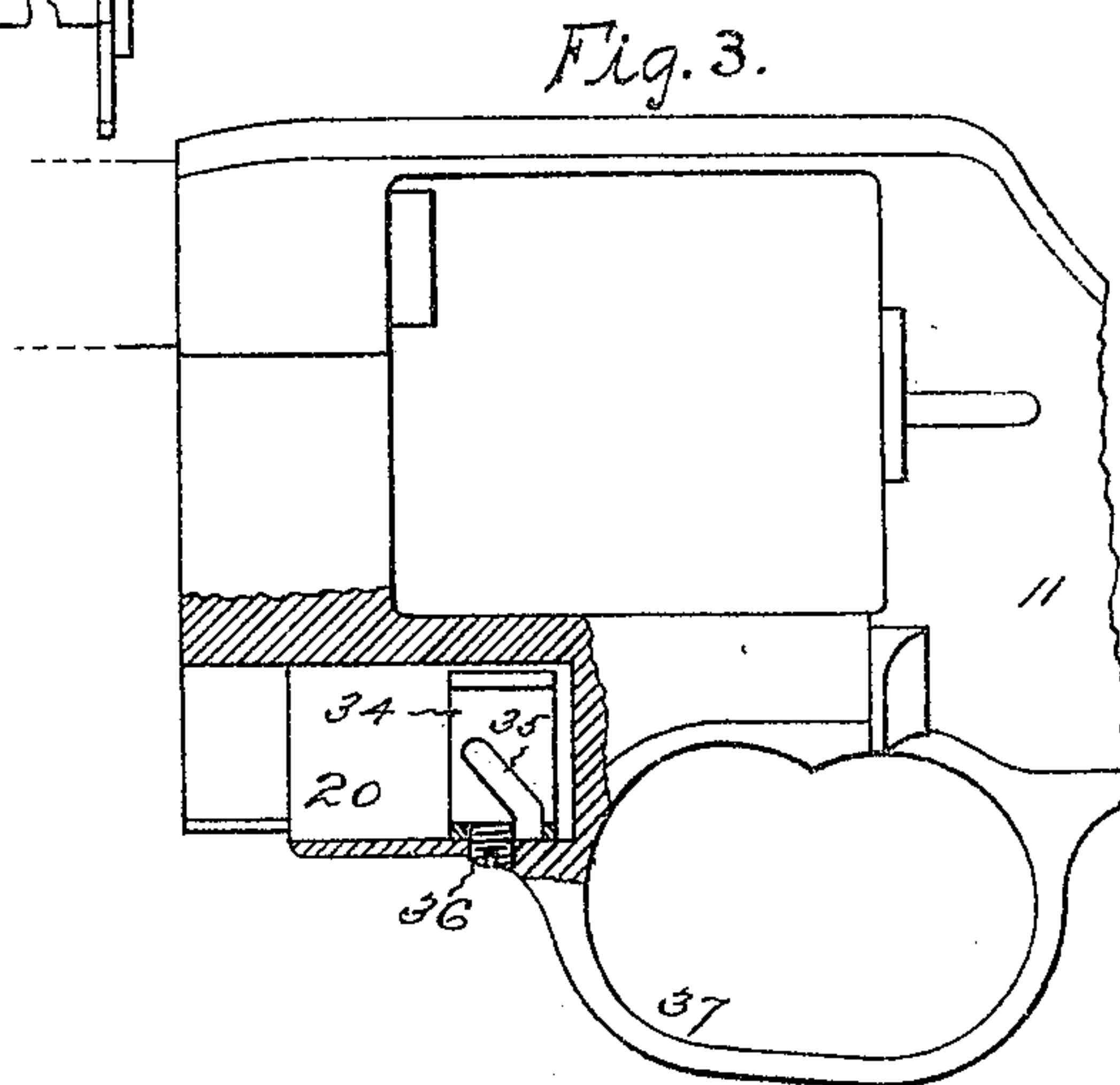
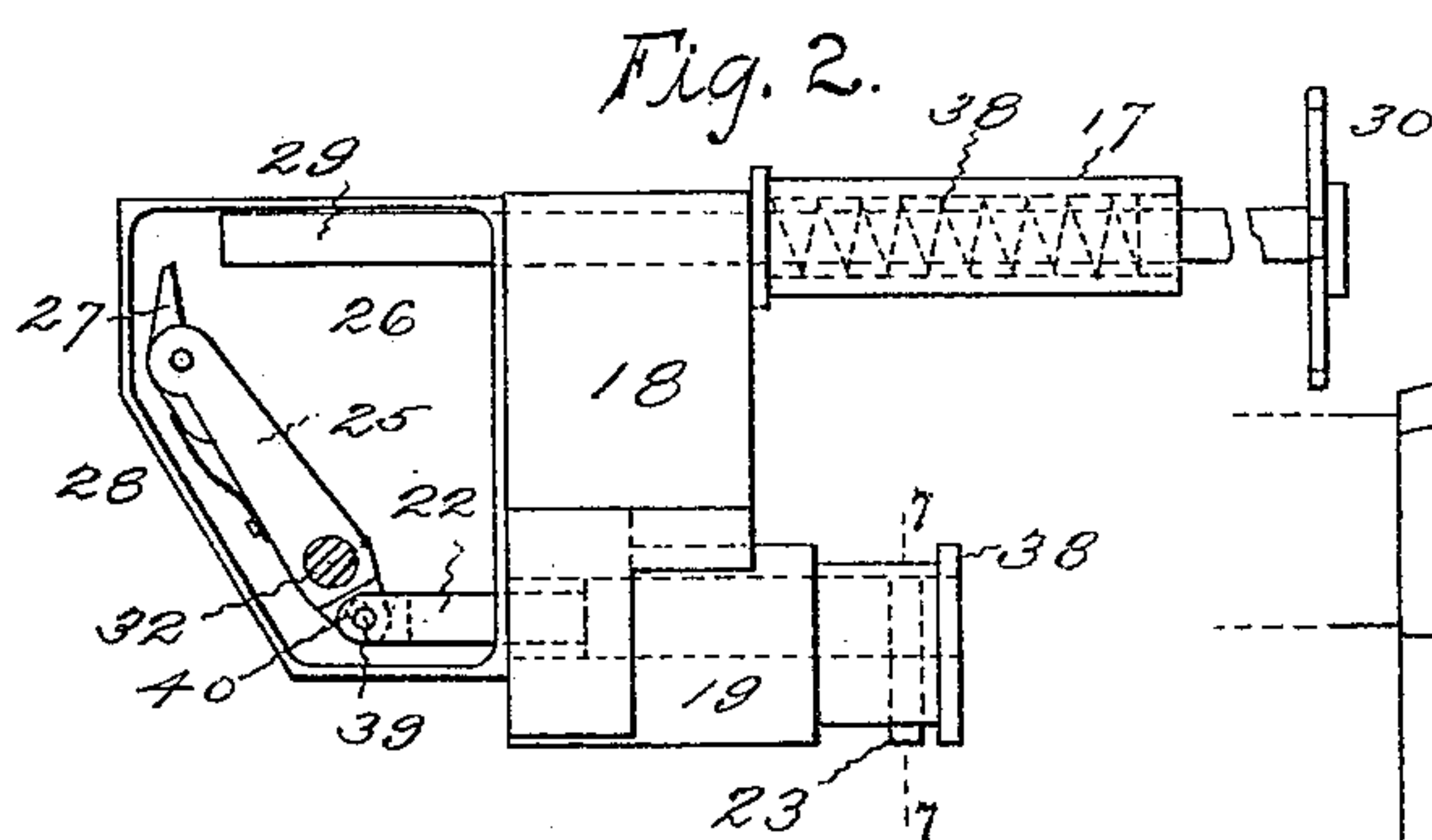
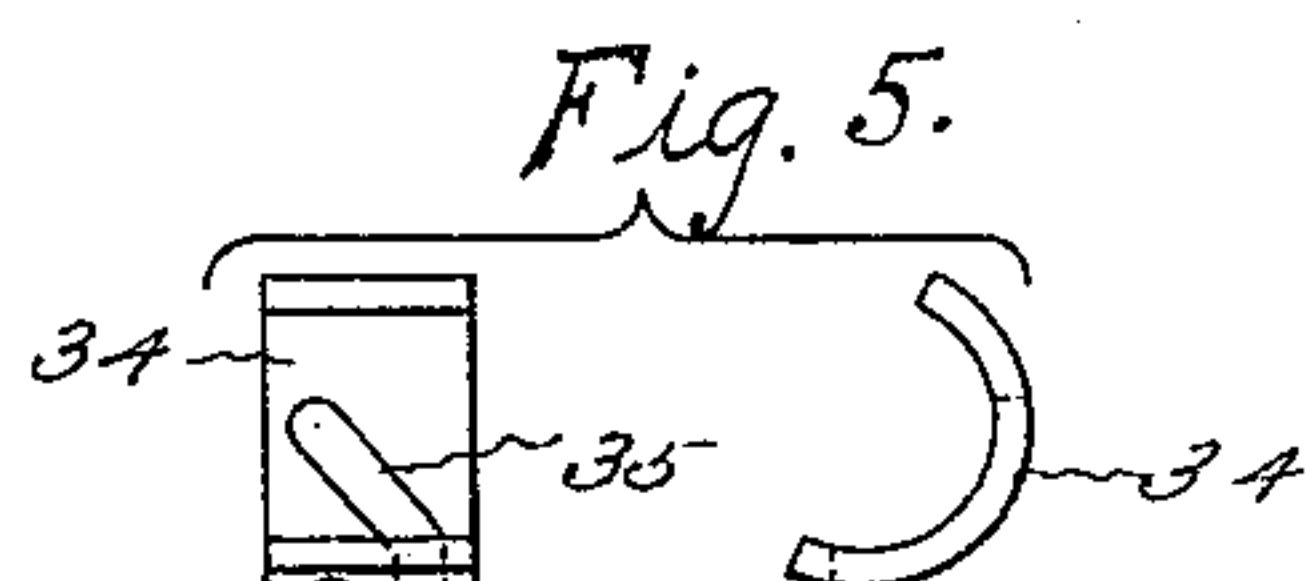
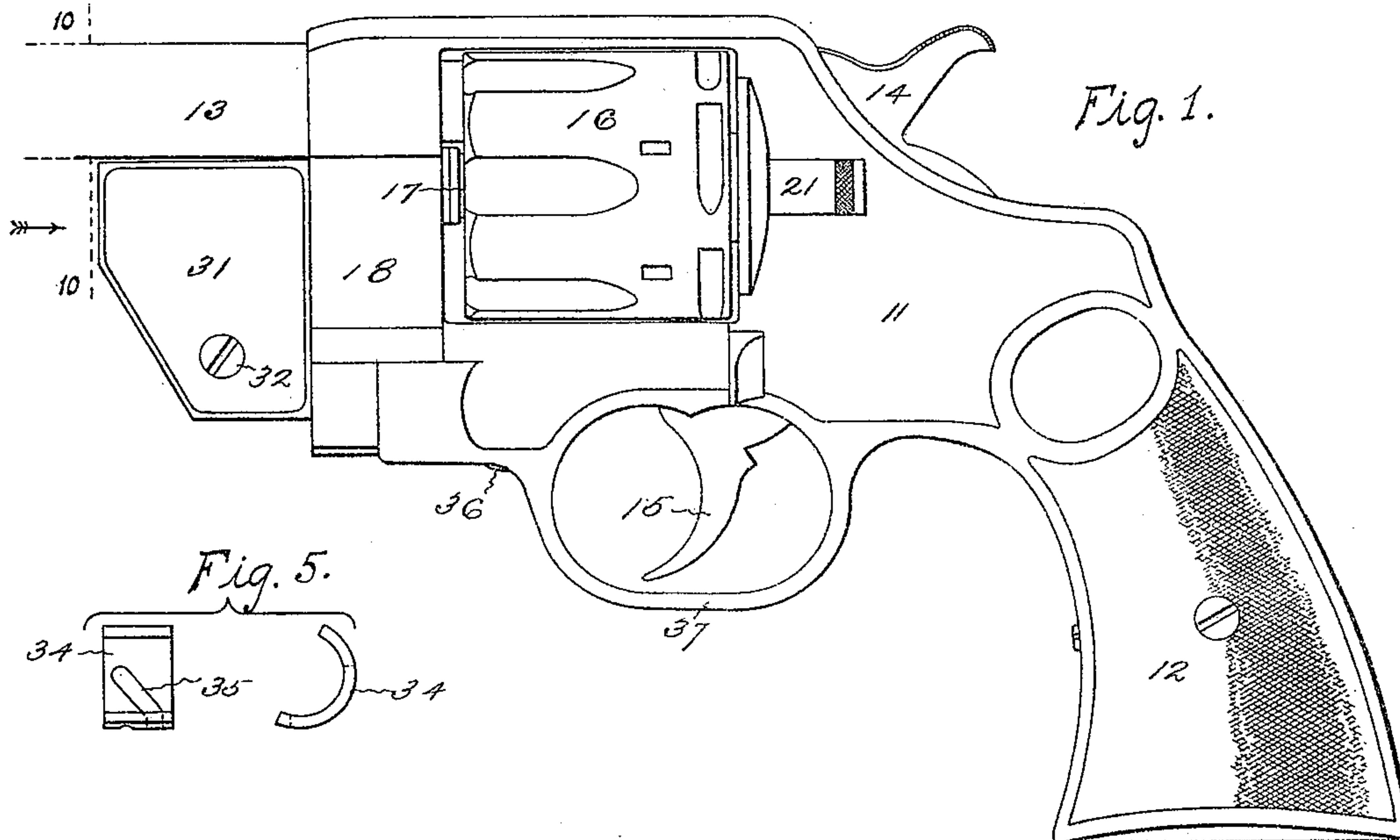
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C. P. O'NEILL.
REVOLVER.

(Application filed Jan. 11, 1901.)

2 Sheets—Sheet 1.

(No Model.)



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REVOLVER.

(Application filed Jan. 11, 1901.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 6.

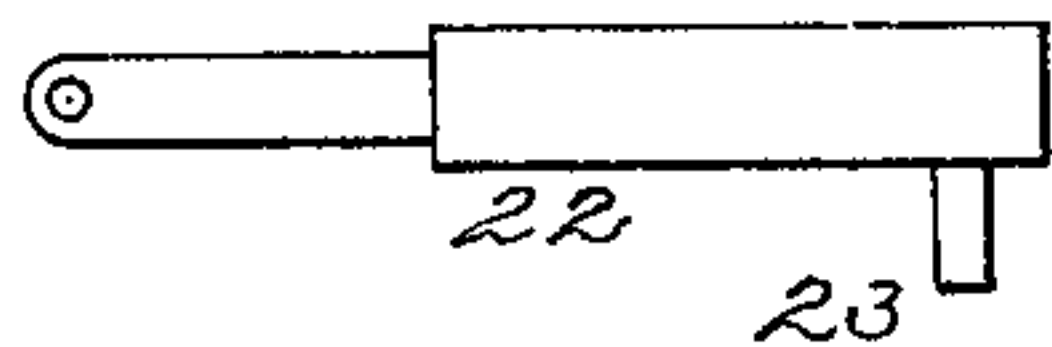


Fig. 7.

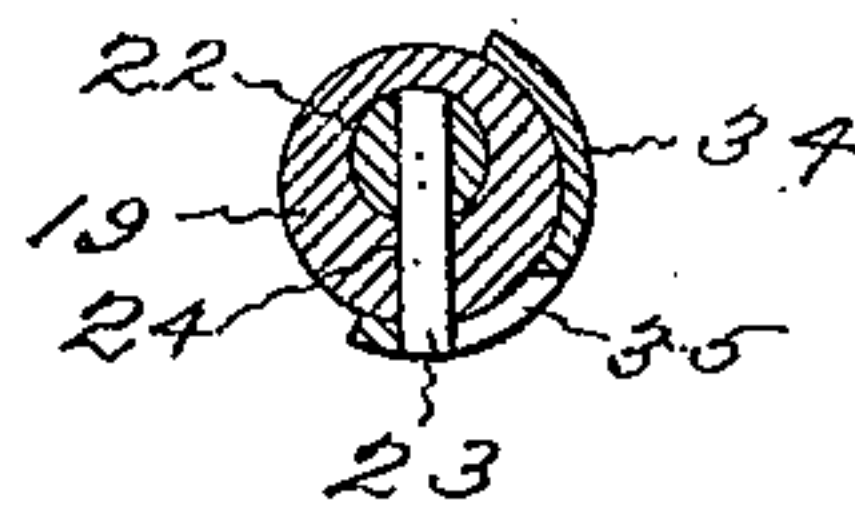


Fig. 8.

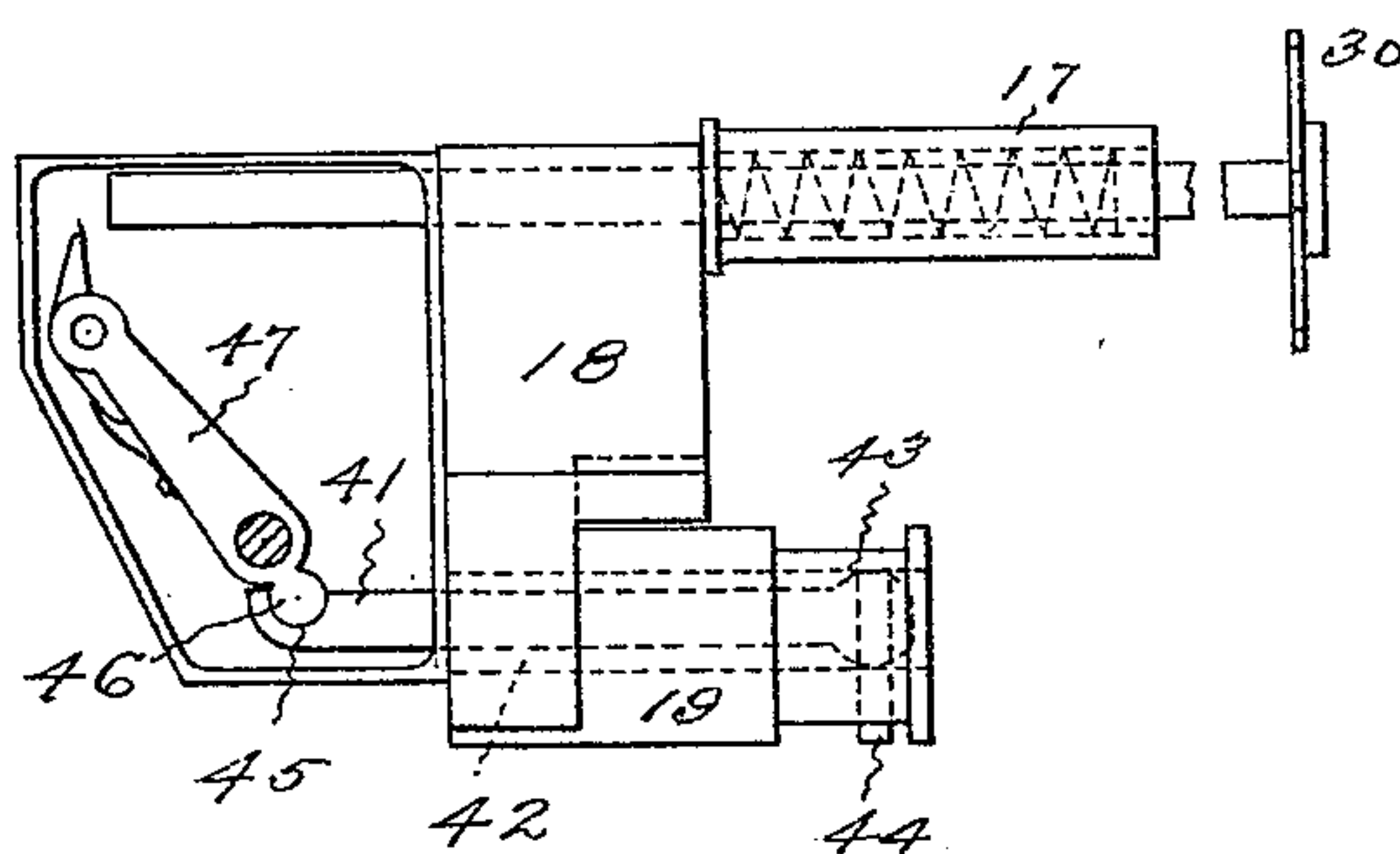


Fig. 9.

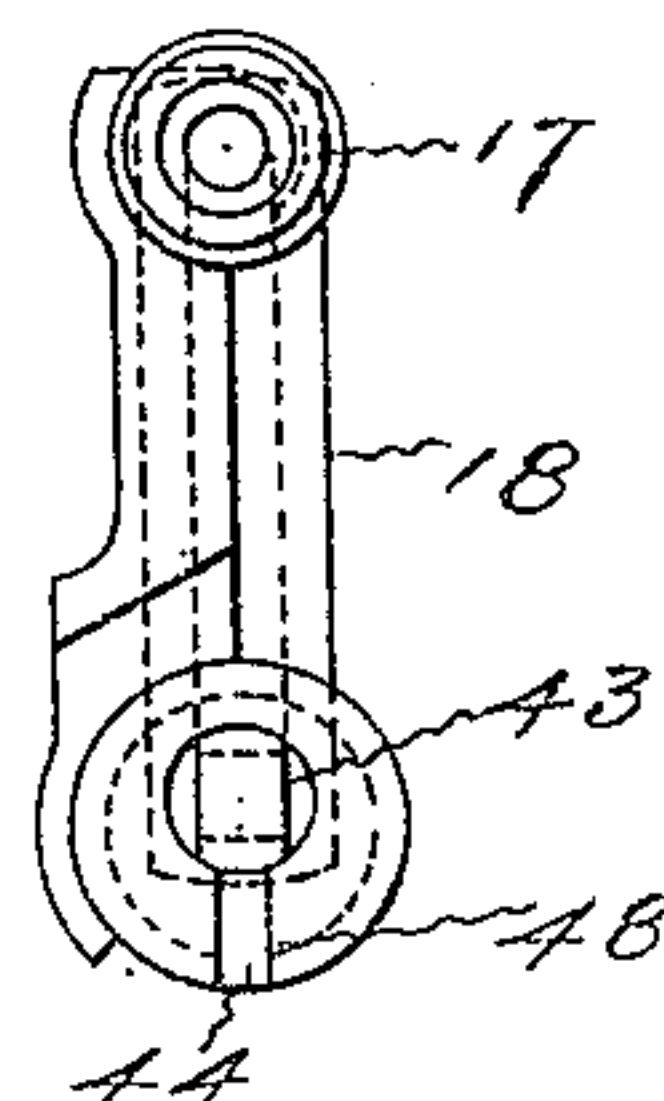
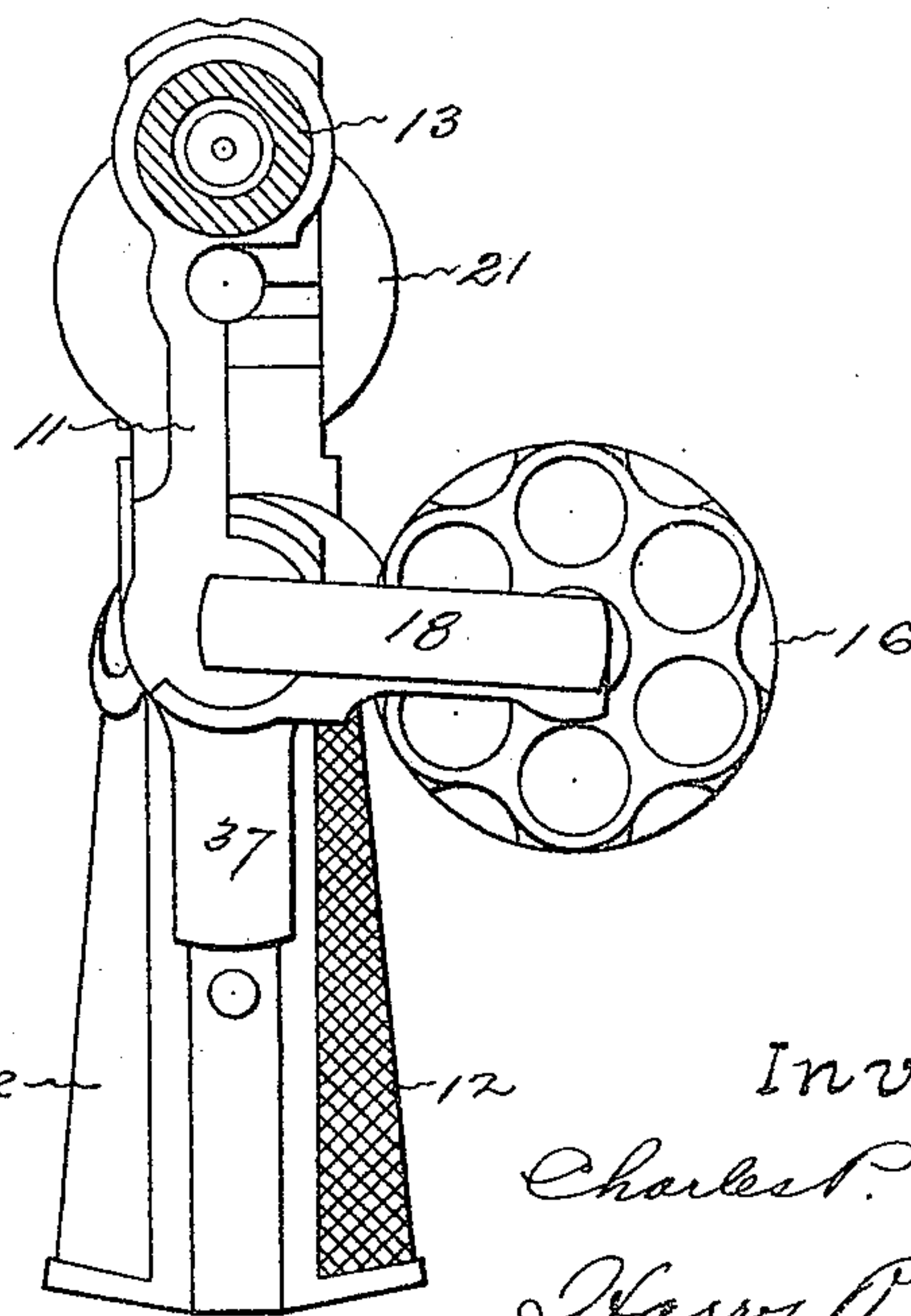


Fig. 10.



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UNITED STATES PATENT OFFICE.

CHARLES P. O'NEILL, OF HARTFORD, CONNECTICUT.

REVOLVER.

SPECIFICATION forming part of Letters Patent No. 685,292, dated October 29, 1901.

Application filed January 11, 1901. Serial No. 42,871. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. O'NEILL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Revolvers, of which the following is a specification.

This invention relates to the type of revolver that is provided with an ejector which automatically throws out the exploded shells as the cylinder and yoke swing downwardly on one side of the stock-frame.

The object of the invention is to construct such a revolver with an automatic ejector-operating mechanism which is simple, durable, and positive.

In the bottom part of the yoke of the revolver that is illustrated by the drawings is a rod provided with a stud that projects into a cam-groove formed in a block that is fixed in a recess in the stock-frame, so that by means of the stud and cam when the yoke is opened outwardly the rod is moved forwardly and when the yoke is closed inwardly the rod is moved backwardly. This rod is connected with a lever in the front part of the yoke, which lever is provided with a hinged spring-finger that normally stands in front of the ejector-stem that is in the upper part of the yoke. When the yoke is opened outwardly, the lever is so moved by the rod, stud, and cam that the finger will engage and force backwardly the ejector-stem and ejector until the exploded shells are forced out of the cylinder-chambers, and then the finger allows the ejector-stem and ejector to be drawn forwardly by a spring, so that cartridges may be loaded into the cylinder-chambers. When the yoke is closed inwardly, the lever is moved so as to return the finger to its normal position in front of the ejector-stem, the finger folding down while passing under the ejector-stem and assuming an upright position when reaching the front end.

Figure 1 shows a side elevation of a portion of a Colt army revolver fitted with the improved ejector mechanism. Fig. 2 is a side view of the yoke with the cover-plate removed to expose the lever. Fig. 3 is a side view of the cylinder-supporting portion of the stock-frame with a part broken away in order to expose the cam block and groove.

Fig. 4 is an end view, looking from the rear, of the yoke shown in Fig. 2 with the ejector omitted. Fig. 5 shows a face and an edge view of the cam-block. Fig. 6 is a side view of the cam-rod and cam-rod stud. Fig. 7 shows a section, taken on the plane indicated by the broken line 7 7 of Fig. 2, through the lower part of the yoke, the cam-rod stud, and the cam-block. Fig. 8 is a view of the yoke with the lever connected with a cam-rod of different form from that shown in Fig. 2. Fig. 9 is an end view, looking from the rear, of the yoke shown in Fig. 8 with the ejector omitted; and Fig. 10 is a view taken on the plane of the broken line 10 10 of Fig. 1, looking in the direction indicated by the arrow, with the yoke opened outwardly.

The stock-frame 11 has common hand-grips 12 and barrel 13. The lock mechanism connecting the hammer 14 and the trigger 15 is the ordinary self-cocking rebounding type. The cylinder 16 is mounted upon the sleeve 17, projecting from the yoke 18, that has a pivot-hub 19, which passes into a recess 20 in the front of the lower part of the stock-frame. When the latch 21 is drawn backwardly, the yoke, with the cylinder, is free to be swung outwardly and downwardly. A rod 22 extends through a longitudinal perforation in the pivot-hub. Projecting downwardly from the rear end of this rod is a stud 23, a mortise 24 being made in the hub for the passage of this stud. The front end of the rod is connected with the short arm of the lever 25, that is pivoted in a chamber 26, formed in the front part of the yoke. A finger 27 is pivoted to the long arm of the lever, which carries a spring 28, that normally holds the finger up-right. The point of this finger extends in front of the end of the ejector-stem 29, that passes through the cylinder-sleeve 17, and at the rear end of the cylinder has shell-ejector arms 30. The stem and ejector being of common construction and being held in the usual manner are not shown in detail. The chamber 26, into which the front end of the ejector-stem and the front end of the cam-rod project, is closed on one side by a removable plate 31, that is held in place by the screw 32, that forms the pivot-stud of the finger-lever.

A portion of the yoke pivot-hub near the rear end is reduced in diameter, and about this

reduced portion 33 the curved cam-block or shell 34 is placed. In this block or shell is an inclined cam-groove 35. When this block is placed in position about the reduced portion 5 33 of the yoke pivot-hub, the end of the stud 23 projecting from the rod 22 extends into the cam-groove 35. The cam-block is first placed about the pivot-hub, and then the pivot-hub is inserted into the recess in the yoke-frame. After these parts are in position the cam-block is fastened by means of a screw 36, that turns into the stock-frame just in front of the trigger-guard 37. With the cam-block secured in position so that it cannot move the removal of the pivot-hub of the yoke from the recess is prevented by the contact of the enlarged rear end 38 of the hub with the back edge of the cam-block. When the yoke is opened outwardly, the stud is moved forwardly by the cam-groove in such manner as to force the rod forward, and this so oscillates the lever that the finger will engage and force backwardly the ejector-stem, causing the ejector to discharge all shells from the chambers of the cylinder. After the lever has oscillated sufficiently far to cause the finger to become disengaged from the end of the ejector-stem the spring 38 throws the ejector-stem and ejector forwardly in the usual manner, so that cartridges may be loaded into the cylinder-chambers. When the yoke is closed inwardly, the stud, by means of the cam-slot, is drawn rearwardly, and this causes the rod to draw back the lower end of the lever, so that the finger is returned to its normal position in front of the end of the ejector-stem. The spring on the lever allows the finger to turn upon its pivot as it passes beneath the ejector-stem, and when the finger reaches its normal place the spring causes it to assume an upright position. This ejecting mechanism is positive in action. It is very simple in construction, and the parts are easily manufactured. There are but few pieces and these are subjected to but little wear, and thus are not liable to become worn, broken, or otherwise damaged.

The cam-rod, which is shown in Fig. 2, is so shaped that it substantially fits the perforation through the pivot-hub of the yoke, and the front end of this rod has a pin 39, that passes through a slot 40 in the end of the lever. In the form shown in Fig. 8 the rod 41 is smaller than the size of the perforation 42 through the yoke pivot-hub except at its extreme rear end 43, which is enlarged where the stud 44 passes through. The front end of this rod is provided with a socket 45, into

which the lower rounded end 46 of the lever 47 extends. In this form the stud 44, extending through the slot 48, prevents the turning of the rod, and the socket at the front end of the rod is so shaped that it will retain the connection between the front end of the rod and the lower end of the lever. 60 65

I claim as my invention—

1. In combination in a revolver, a side swinging yoke, a cylinder borne by the yoke, an ejector and ejector-stem carried by the yoke, a jointed lever mounted in a recess in the yoke with one end adapted to engage the ejector-stem, a rod connected with the lever, and a cam adapted to reciprocate the rod and cause the oscillation of the lever as the yoke is opened and closed, substantially as specified. 70 75

2. In combination in a revolver, a side swinging yoke, a cylinder borne by the yoke, an ejector and ejector-stem carried by the yoke, a jointed lever mounted in a recess in the yoke with one end adapted to engage the ejector-stem, a rod connected with the lever, a stud projecting from the rod, and a fixed cam engaging the stud and adapted to reciprocate the rod and cause the oscillation of the lever as the yoke is opened and closed, substantially as specified. 80 85

3. In combination in a revolver, a side swinging yoke, a cylinder borne by the yoke, an ejector and ejector-stem carried by the yoke, a jointed lever mounted in a recess in the yoke with one end adapted to engage the ejector-stem, a rod connected with the lever, a stud projecting from the rod, and a cam-block encircling a portion of the pivot-hub of the yoke and having a cam-slot into which the stud projects so as to cause the rod to be reciprocated and the lever to be oscillated as the yoke is opened and closed, substantially as specified. 90 95 100

4. In combination in a revolver, a side swinging yoke, a cylinder borne by the yoke, an ejector and ejector-stem carried by the yoke, a jointed lever mounted in a recess in the yoke, a spring-finger carried by the lever and adapted to engage the end of the ejector-stem, a rod connected with the lever, a stud projecting from the rod, and a fixed cam engaging the stud and adapted to cause a reciprocation of the rod and oscillation of the lever as the yoke is opened and closed, substantially as specified. 105 110

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