

W. H. PHILIP.
 Revolving Fire-Arms.

No. 142,175.

Patented August 26, 1873.

Fig. 1.

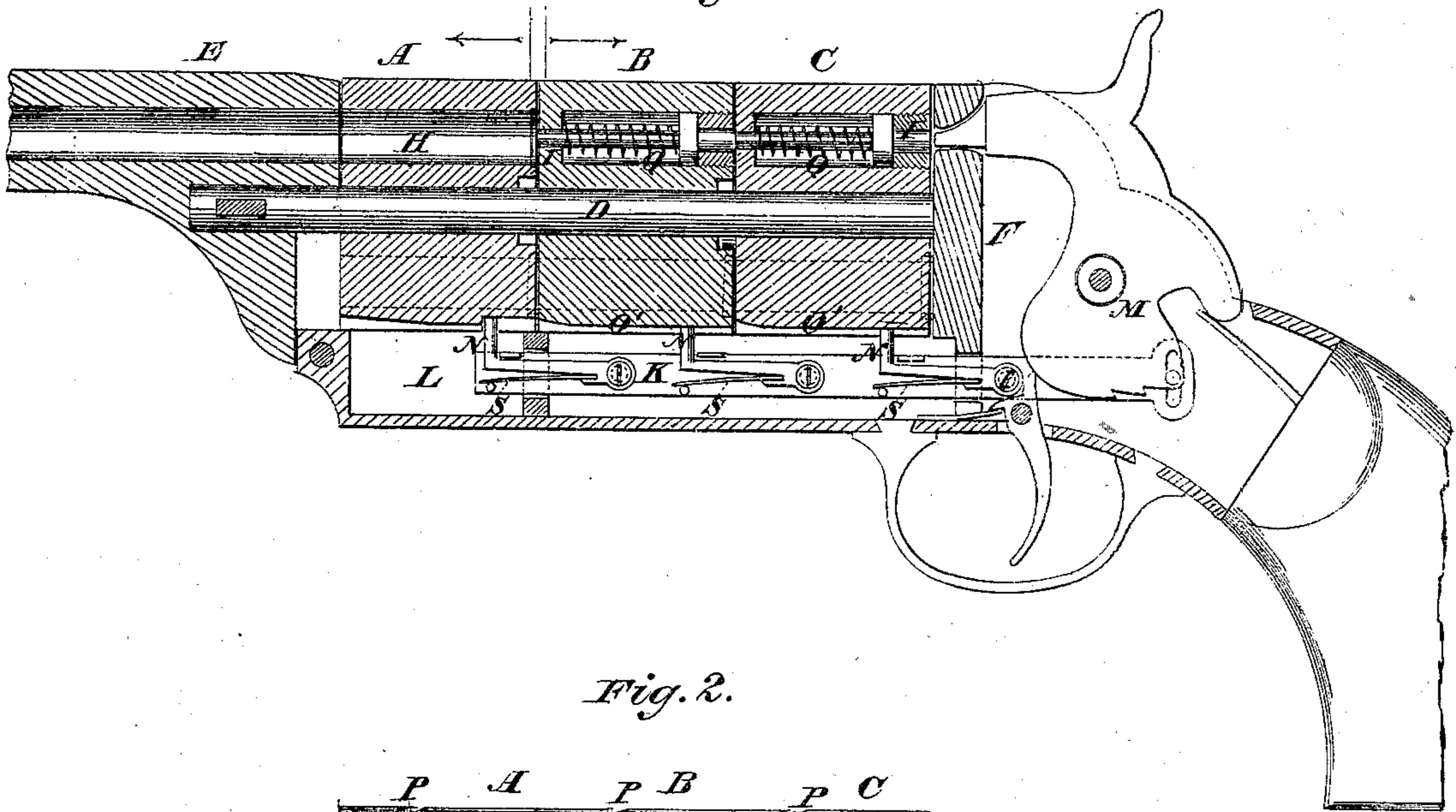


Fig. 2.

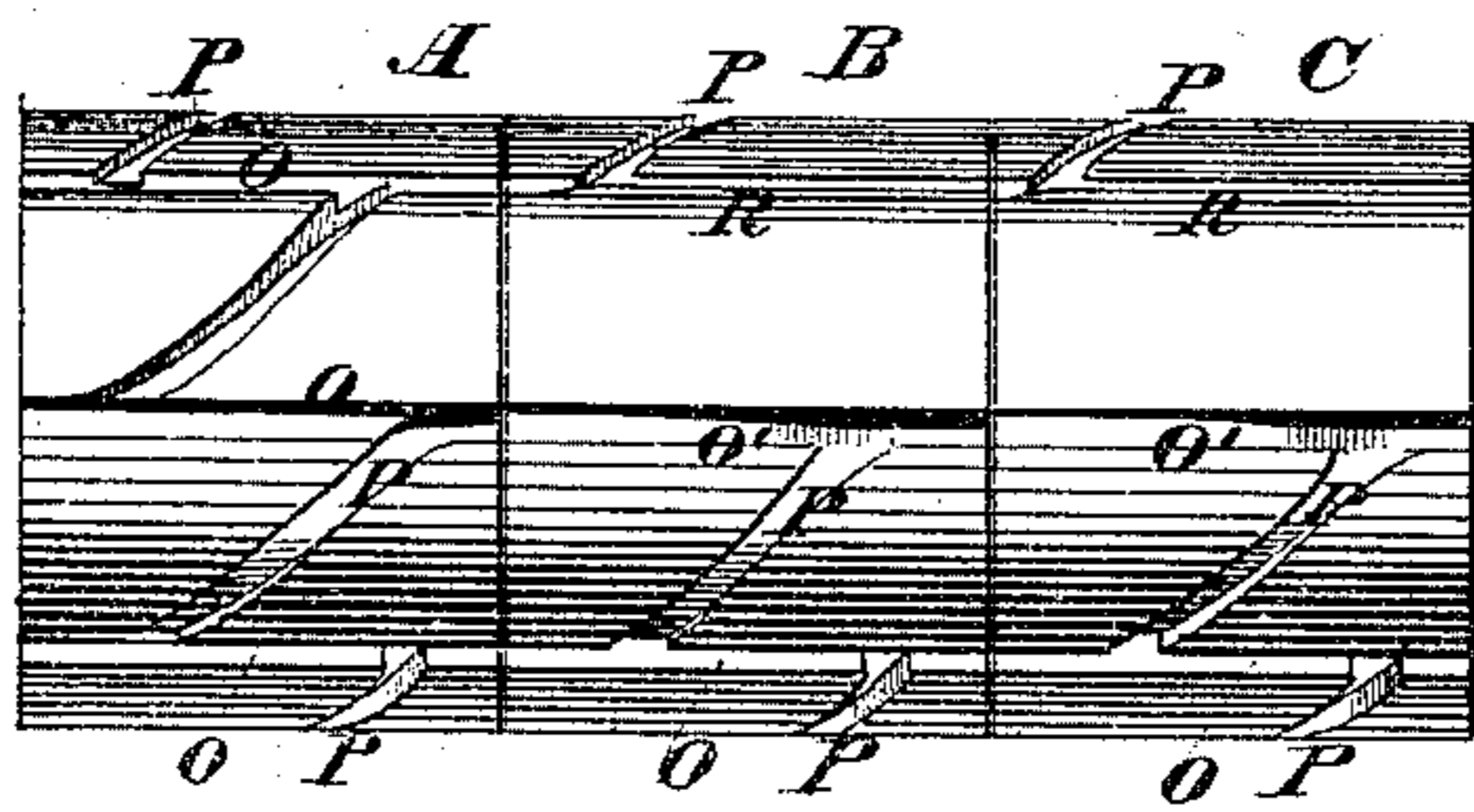


Fig. 3.

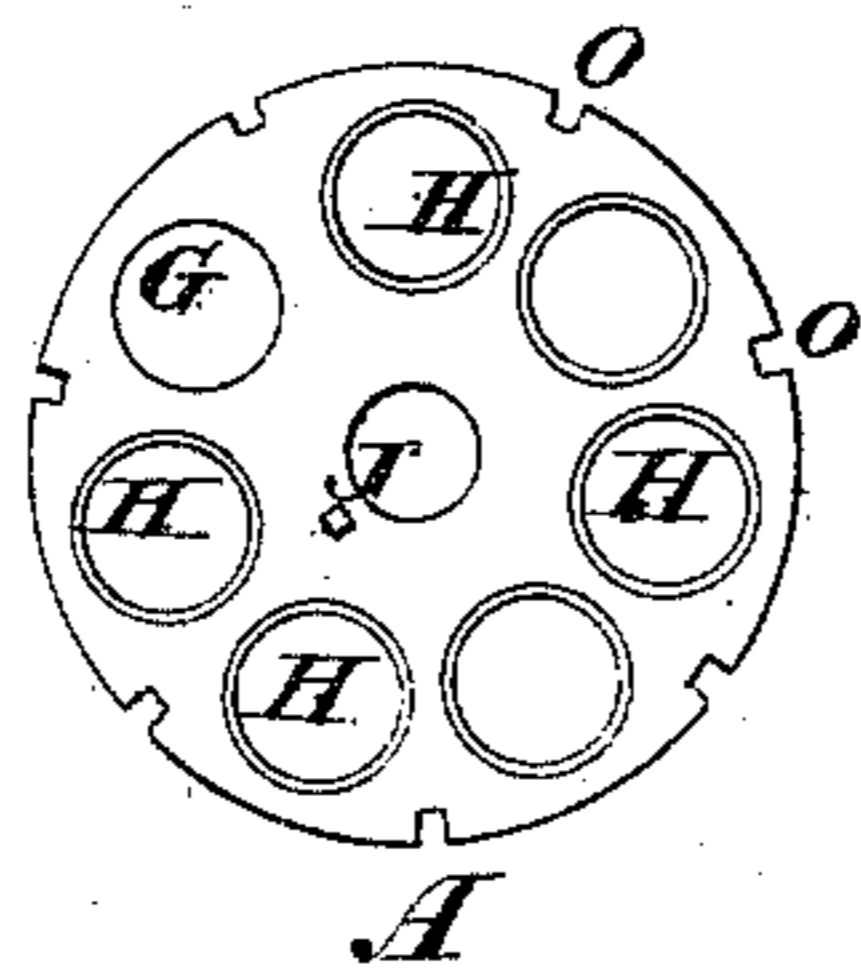


Fig. 4.

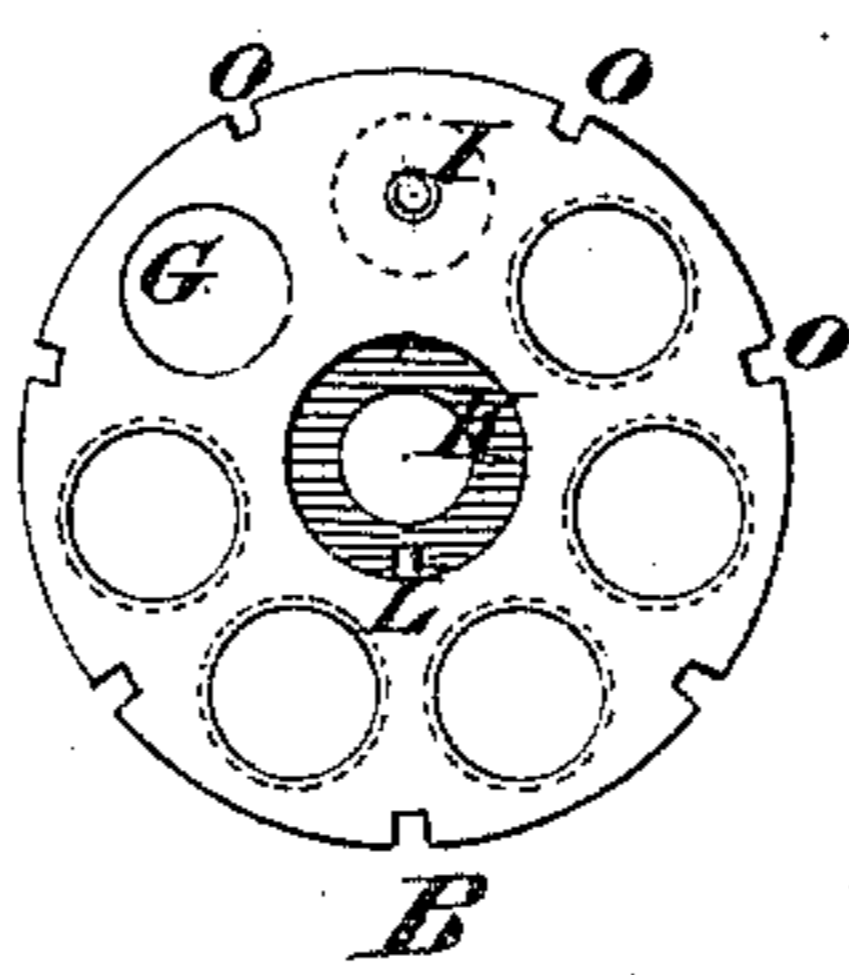
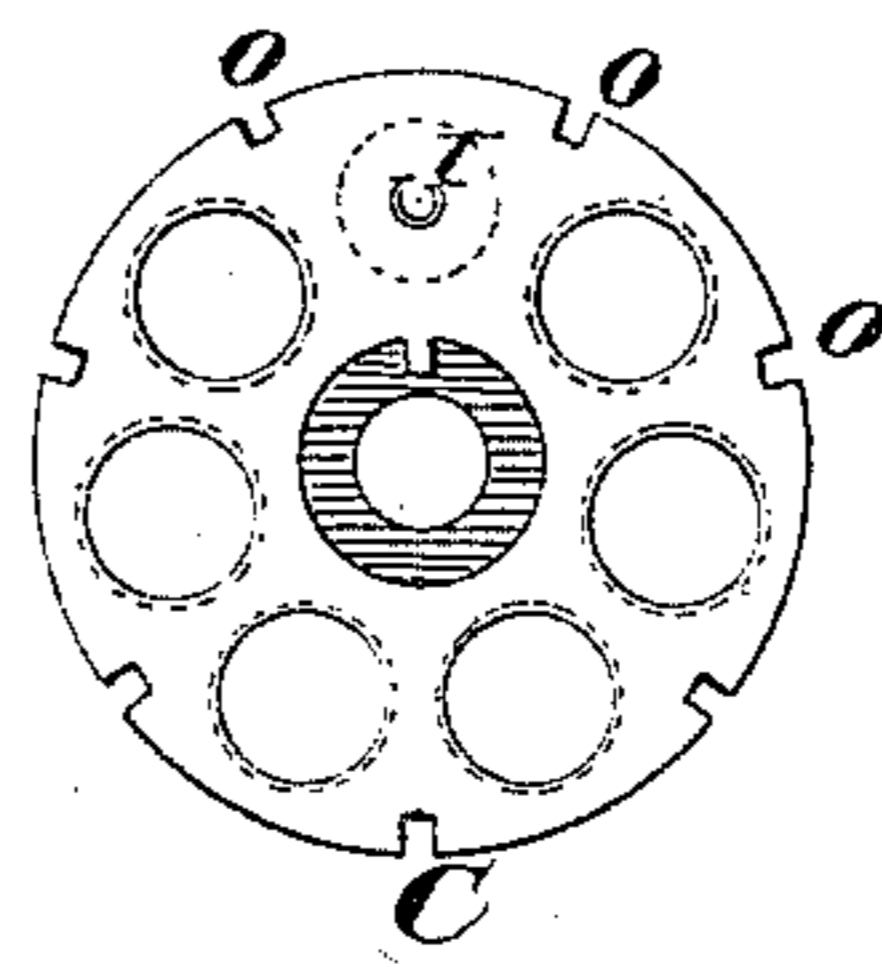


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM H. PHILIP, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN REVOLVING FIRE-ARMS.

Specification forming part of Letters Patent No. **142,175**, dated August 26, 1873; application filed June 7, 1873.

To all whom it may concern:

Be it known that I, WILLIAM H. PHILIP, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Revolving Fire-Arms, of which the following is a specification:

My invention relates to the combination of a sliding pawl-bar and a series of pawls with a series of revolving cartridge-cylinders arranged on the same axis, and provided with spiral and straight grooves to enable them to be turned in succession, whereby, when one cylinder is exhausted, it sets the next one in motion, and ceases itself to rotate. The invention also consists in connecting the pawl-bar and series of pawls with the hammer, as hereinafter described.

Figure 1 is a longitudinal sectional elevation of a pistol provided with three cartridge-cylinders according to my plan. Fig. 2 is a side elevation of the cylinders. Fig. 3 is a rear-end elevation of the front cylinder. Fig. 4 is a front-end elevation of the middle cylinder, and Fig. 5 is a front-end elevation of the rear cylinder.

Similar letters of reference indicate corresponding parts.

A, B, and C represent the cylinders, which are arranged on the spindle D, end to end, between the barrel E and the breech or recoil block F. The cylinder A has seven chambers, and the others six. The front and middle cylinders each have one chamber, G, reserved for serving as a portion of the barrel to the cylinder behind, said chamber not being recessed at the rear end for the flange of the cartridge as the other chambers H are, so as not to be exposed to the force with which the explosion would tend in said recess to project the barrel from the stock. The rearmost cylinder and the middle one have each a needle or firing-pin, I, arranged in the place of a chamber. The front cylinder has a stud-pin, J, on its rear end, near the axis, projecting into a little annular recess, K, in the front end of cylinder B, in which recess is a stud, L, against which stud J will act at its last movement immediately after its last chamber has been fired to turn cylinder B for bringing its first chamber up to be fired, and cylinder B has a similar stud-pin on its rear end projecting into an annular re-

cess, M, in the front end of the rearmost cylinder to turn it the first stage of its revolution after the last charge has been fired from the said middle cylinder. For turning the cylinders, a pawl-bar, K, is arranged along under the cylinders in a chamber, L, and so connected to the hammer M that, when it is cocked, the bar is thrust forward, and the bar has a pawl, N, for each cylinder, and the cylinders are provided with longitudinal grooves O and spiral grooves P in the surface, in which the pawls work to revolve the cylinders. They merely slide back in the longitudinal grooves when the arm is fired without having any effect on the cylinders; but when the hammer is cocked and the pawls are thrust forward, they are turned into the spiral grooves, in consequence of the latter being deeper than the others, and turn the cylinders; but there is in each cylinder one longitudinal groove as deep as the spiral groove, so that the pawl is not turned into the latter, but allowed to work forward and backward without turning the cylinder. The object is to allow those cylinders which are not firing to remain at rest, while the one which is firing revolves. Such grooves are shown in the two rearmost cylinders at O', Fig. 2. These grooves are directly under the needles or firing-pins Q in these two cylinders, by which the blow is transmitted from the hammer to the cartridges in the two most forward cylinders to allow cylinders B C to remain at rest while A is firing, and C while A and B are firing. The corresponding groove in cylinder A is under chamber G, which is the one which serves for a portion of the barrel for the two cylinders behind it. Besides the grooves O' of cylinders B C, they each have another groove, R, out of which the pawls do not turn into spiral grooves to turn them. The one in the middle cylinder is opposite the chamber, which serves for a portion of the barrel to the rearmost cylinder, to allow this chamber to remain in position for this purpose while the rearmost cylinder is discharging, and the one in the said rearmost cylinder is opposite the last chamber fired at the end of the operation, when the cylinders have to be taken off, reloaded, and readjusted. The front cylinder has one more chamber than the number to be loaded, the one in excess being

for the barrel to the next. The middle cylinder has one less chamber than the front one to make room for the needle or firing-pin, and its chamber for the barrel of the rear cylinder is not loaded, so that it carries one less cartridge than the front cylinder. The rearmost cylinder has one less chamber than the front one, also, to make room for its firing-pin; but all of its chambers are charged, as it does not require to have one reserved, because there is no cylinder behind it.

The cylinders being all charged, B and C are put on the spindle so that their firing-pins are uppermost and in front of the hammer, and the front cylinder is put on so that the barrel-chamber G comes at the top and in front of the firing-pins in the chambers behind. The firing then progresses in regular order until the last cartridge in A is fired, when the stud-pin J comes to the stud L of the next cylinder B, and sets the latter in motion, so that the pawl for it switches into the spiral groove, and the two cylinders A and B turn one stage together. The cylinder A then having brought its chamber G into line with the barrel, and its deep straight groove O' to the pawl ceases to revolve, and the middle one revolves, and its cartridges are fired till they are exhausted; then its stud-pin J sets cylinder B in motion,

and it ceases to revolve in the same manner as before in case of the cylinders A and B. When all the cartridges are fired from the last cylinder all the cylinders are removed from the spindle and relieved of the shells, loaded, and put on again, as before.

Any number of cylinders desired may be arranged and operated in a series in this way.

The pawls N have a spring, S, to hold them in the grooves, so as to allow them to shift with the varying depths of said grooves.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the sliding pawl-bar and a series of pawls with a series of cylinders connected by a stud-pin, J L, and each having a groove, O', for its pawl arranged in such manner that, when one cylinder is exhausted, it sets the next one in motion, and then itself ceases to rotate, substantially as described.

2. The pawl-bar K, hammer M, and pawls N, combined with the series of cylinders, substantially as specified.

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Witnesses:

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