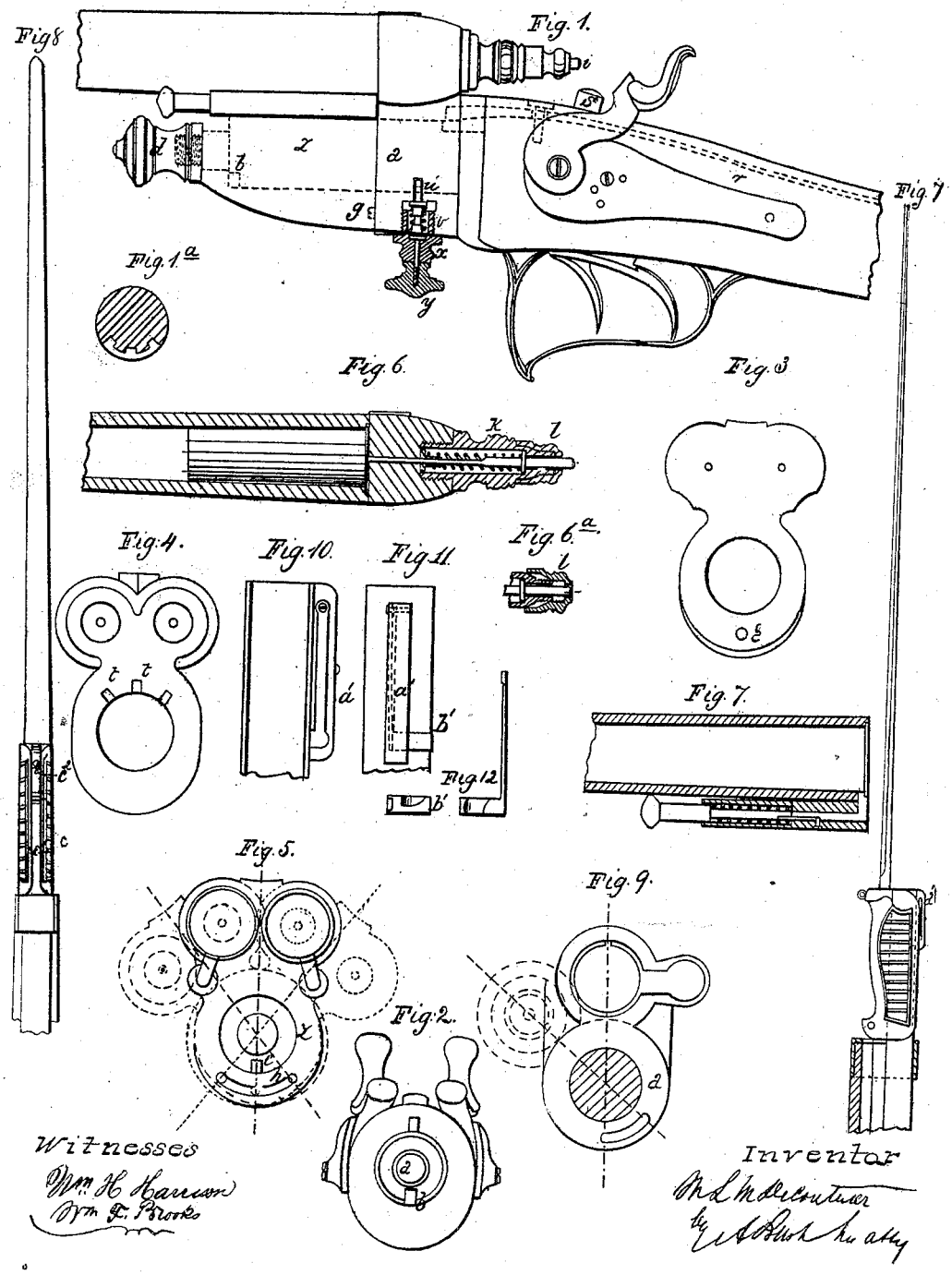
2 Sheets—Sheet 1.

M. L. M. DESCONTURES.

Breech-loading Fire-arm.

No. 49,057.

Patented July 25, 1865



2 Sheets—Sheet 2.

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Fig. 1.

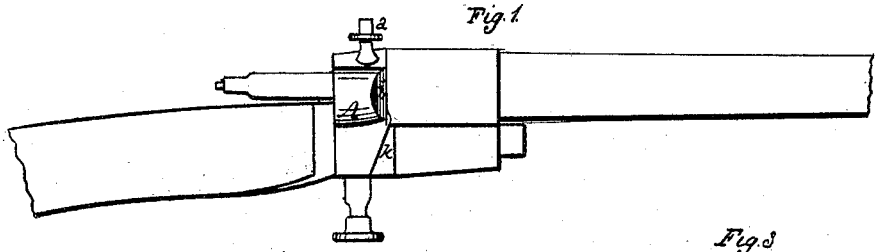

Fig. 4.

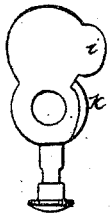

Fig. 2.

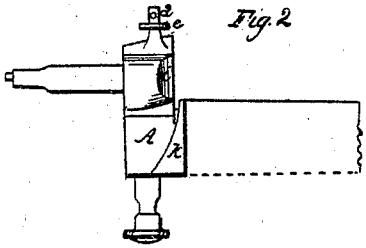

Fig. 3.

Fig. 5.

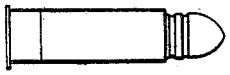

Fig. 6.

Witnesses
Wm. H. Harrison
Wm. D. Brook.

Inventor.
M. L. M. Descontures
by A. Pollok
his atty

UNITED STATES PATENT OFFICE.

M. L. M. DESCOUTURES, OF PARIS, FRANCE.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **49,057**, dated July 25, 1865.

To all whom it may concern:

Be it known that I, MATHIEU LOUIS MICHEL DESCOUTURES, of Paris, in the Empire of France, have invented certain new and useful Improvements in Fire-Arms, and in adapting bayonets or cutting or piercing weapons thereto; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, hereinafter referred to.

My invention first relates to breech-loading fire-arms; and its principal feature consists in the employment of an improved breech, which I call an "oscillating breech," by which I mean a movable breech capable of being oscillated, rocked, turned, or worked on a fixed fulcrum, pivot, axis, or center of motion situated at a point or part above or below the breech itself, or portion of the piece forming the breech that comes in a line with the barrel, in such manner that the said breech shall turn or work on its fulcrum, pivot, or axis to the right or left, as required, but shall not revolve around a central axis, like revolving breeches, for which reason this improved breech is herein called the "oscillating breech" to distinguish it from rotating breeches. For fitting together the portions that constitute the fire-arm, a novel and simple method, hereinafter described, is adopted. In arms which are fired by a needle-striker or exploding-rod, the latter has fitted over or around it a nut, which I call a "shielding-nut," and which is so placed and arranged that by adjusting it suitably the cock or hammer can be prevented from firing the charge when the arm is not intended to be discharged. In double-barreled arms, where two cocks are used, an arrangement is adopted in which either cock may act either on the needle-striker or exploding-rod of its own barrel or on that of the other barrel, as required, so that the arm may be discharged in case of emergency while one barrel is loaded and the other open, as well as while both barrels are loaded.

An improved carbine, hereinafter described, intended as an arm of precision, (*carabine de precision,*) is constructed according to this invention, having a rifled barrel and an oscillating breech, and furnished with a new sight whose position is permanent, notwithstanding the jars attending the discharge of the gun; also a bayonet or weapon placed in the stock. This arm is believed to be especially applicable for adoption in the army and navy, and is also suitable for employment in wild beast chases.

I now proceed, with reference to the accompanying drawings, particularly to describe the best means known to me for carrying the invention into effect.

Although the drawings represent the invention as applied to a double barreled fowling-piece and to a single-barreled carbine by way of example, I wish it to be understood that it may be applied to other descriptions of guns or fire-arms, including pistols and revolvers.

Figure 1 is a side elevation of a double-barreled fowling-piece constructed according to this invention; Fig. 2, an end view, and Fig. 4 a back view, of the improved or oscillating breech. Fig. 5 exemplifies the positions taken by the breech to allow of the arm being charged. Fig. 6 is a section showing the barrel loaded with cartridges, and also the exploding-rod and its action; Fig. 7, rod for clearing out or removing cartridges from the barrel; Figs. 7ª and 8, views of the muzzle end of the barrel of the improved carbine with the bayonet or cutting-weapon fitted in place. Fig. 9 shows the relative positions of its breech and barrel. The other figures are detached views of the parts that retain the bayonet on the gun.

The gun, Fig. 1, takes into three distinct pieces, A, B, and C—namely, the first or rear portion, A, comprising the stock or handle, the lock and trigger, and a pin-bolt or axis projecting from the "break-off," by which the three portions A B C are connected together, the stock or handle part being extended to receive the lock and trigger; the second or intermediate portion, B, comprising the oscillating breech and the needle-striker or exploding-rod; the third or fore portion, C, comprising the barrel and its appendage *z*.

First portion, A: The lock and trigger are of usual construction. The main difference in respect of this first portion consists in this, that there projects from it—that is to say, from the center of the face of the break-off *w*—a stout pin bolt or rod, *a*, which forms an axis, pivot, or fulcrum for the breech to work on, and also serves to connect the three portions A, B, and C together. At one end of the axis *a* is a notch, *b*, into which a pin, *c*, takes. The extremity of the axis *a* is screw-threaded to receive a nut, *d*, by which the portions A and C are secured

together, as afterward explained. *r* is a long flat spring or metal tongue, forming a spring, fastened within the stock, and acted on by pressing upon a knob or stud, *s*, preferably fitted between the two cocks. The use of the spring *r* and knob *s* is hereinafter explained.

Second portion, B: The breech or piece B, the position of which is between the break-off and the barrel, consists of a piece or block of metal which is solid at the upper portion or breech proper, which portion comes up against and in a line with both the barrels and closes them both at their breech ends, while at the lower part of the piece B extends below the barrels, at which part it is annular or formed with an opening, *q'*, through which is passed the pin or axis *a*, which the piece B rests and works. The breech or breech-piece B is rocked or moved on this axis *a* by hand to either side to open the two barrels—that is to say, when moved aside to the right it opens the left-hand barrel, when to the left the right-hand barrel, and when brought upright it comes against and closes both barrels tightly. When the breech is opened the cartridge is inserted in the rear or breech end of the barrel. The breech is steadied and guided in its motion and prevented from moving too far in either direction by means of a stop or projection, *g*, formed upon its face, and moving in a slot, *h*, formed in a part, *z*, attached to the barrel. In the upper or solid portion of the breech B are two holes or passages exactly facing the barrels, so that each barrel has one of these holes opposite to and leading into it in a line with its axis. Through each hole passes a striker or exploding-rod, *i* (one for each barrel) intended to receive the blow of the cock or hammer, and to strike upon and explode a percussion-cap in the cartridge, and thereby discharge the gun. These holes or passages widen toward their back ends, or ends farthest from the barrel, and each hole is screw-threaded on its inner surface for a portion of its length, and has screwed into it thereat a tubular piece, *k*, which is also screw-threaded at its back end, and has a nut, *l*, screwed thereon. The rod is thicker toward the end on which the hammer acts than at the other, and round it is a spiral spring, *m*, fitted between a fixed shoulder, *n*, at one end and a movable collar, *o*, at the other. When the nut *l* is screwed in—that is, into the position shown in Fig. 1—the cock or hammer, when actuated, will strike against the rod *i* and drive it against the cartridge and discharge the gun. When the cock is raised the spring *m* will force back the rod *i* to its previous position; but when the arm is not to be fired the nut *l* is unscrewed a little upon the piece *k*—that is to say, is worked into the position shown in Fig. 6ª; and if, after the nut has been thus adjusted, the cock should be released by accident or otherwise, it will only drop against the nut *l*, and will not act on or force forward the rod *i*, the end of the rod being shielded by the nut *l* from the blow of the cock, wherefore I call the nut *l* the "shielding-nut." By these means the discharge of the gun when it is not required to be fired will be prevented. *t t t* are three notches formed in the back of the breech to receive the end of the spring *r*. When the breech B is in its upright or closing position the end of the spring *r* takes into the central one of these three notches *t* and keeps the breech against the end of the barrels; but when the breech is to be inclined on its axis to open the barrels the knob *s* is pressed down, and so releases the spring *r* and allows the breech to be moved on its pivot to the right or left, as required, whereupon the end of the spring *r* will enter into that one of the side notches *t* which corresponds to the then position of the breech until again released to allow the breech to be returned to its closing position. The relative distance between the notches is regulated according to the length of travel required for the breech. Instead, however, of the knob *s* and spring *r*, an arrangement may be adopted which is preferable, particularly because it allows of the breech being worked by one hand only. In this method (shown in Fig. 1ª, and also in blue section-lines, Fig. 1) a recess is formed in the under side of the axis *a* of a length corresponding to that of the travel of the breech, and in this recess are formed three notches. *u* is a rod or pin, round which is a spiral spring, *v*, fitted between a stationary abutment at one end and a movable collar at the other. This rod or pin *u* passes down through a collar, *x*, screwed into the under side of the breech, which is drilled for the pin to pass up to *a*, and a nut, *y*, is screwed to the rod *u* at bottom. When the breech is in its upright position, or that in which it closes the barrels, the top of the rod *u* takes into the central one of the three notches under the bolt *a;* but when the breech is to be worked or inclined on its pivot to open the barrels the nut *y* is pulled down a little so as to disengage the rod *u* from the central notch, and the breech is then released and free to be moved on its pivot to either side, as required, and the rod *u* is allowed to rise into one of the side notches—the one corresponding to the then position of the breech—to be released, as before, when the breech is to be returned to the closing position. When this mode is adopted the slot *h* is not required.

Third portion, C: The barrel itself, Fig. 1, is of usual construction, except that it has formed on or fixed to it on its under surface, toward its rear end, a box, chamber, or tube, *z*, which receives the axis *a*. The slot *h* is formed on this box *z*.

When the three portions A, B, and C, forming the gun, are to be secured together, the breech or portion B is mounted on the rod *a*, which is inserted in the box *z*, and the nut *d* is screwed on its end. The pin *c*, which is fixed to the box *z*, and projects within it, takes into the notch *b*. The groove or slot *h* is so disposed that when either one of the two bar-

rels is loaded—say the right-hand one, for example—and the breech is inclined on its axis to open the left-hand barrel and insert a cartridge, the exploding-rod of the left-hand barrel will come opposite to the right-hand barrel and the right-hand cock, and the gun may thus be discharged as easily as if the right-hand cock were acting on its own exploding-rod.

I now proceed to describe the single-barreled carbine, which I call "*carabine de precision.*" In Figs. 1, 2, 3, and 4, Plate 2, I have represented such an arm provided with a movable sight. In Figs. 5 and 6 I have shown in elevation and partly in section the kind of cartridges I use, in preference, with my improved carbine. The construction and action of its breech are the same as before described, and shown in Fig. 9, Plate 1, except that when the oscillating breech is applied to single-barreled guns it only requires to be accurately guided in one direction, so that the slot *h* is of only half the length (proportionately) to what would be necessary with double barrels. The arrangement of rod *i* is the same as in Fig. 1, and either of the two disengaging arrangements—that is, either the spring *r* and knob *s* or the rod *u* and notched recess under *a*—may be adopted.

An important improvement in this arm consists in the adaptation thereto of an improved arrangement of bayonet or weapon. This bayonet or weapon, when stowed away, lies in the gun-stock, and can be readily withdrawn therefrom, either to be fitted at the muzzle end of the barrel, as shown in Figs. 7ª and 8, or to be detached from the gun and used apart from it as a sword or pike or separate cutting or piercing weapon, its blade being formed with cutting edges or as a pike. The handle or hilt of this weapon is so contrived as in nowise to interfere with the accuracy of aim when the bayonet is at rest in the stock, in which, when it is so stowed away, its blade lies concealed. This handle consists of a sort of hollow case or tubular piece surrounding the barrel C, and slotted to pass a projection, *a'*, fixed on the barrel. On this projection *a'* is a narrow metal plate forming a spring, (shown in Figs. 11 and 12,) and having at one end a knob or head, *b'*, which takes into one or other of two notches, *c' c²*, on the bayonet-handle, according as to whether the bayonet is stowed away in the gun or fixed at the end of the barrel, as in Figs. 7ª and 8.

The sight which I have shown in Figs. 1, 2, and 3, Plate 2, consists of a flat disk, *a*, having the usual sight-hole slot or depression, *b*, cut into it. This piece is supported at one end by a small standard, *c*, capable of a sliding motion in a guide, *d*. It is adjusted at the other end by means of a screw, *e*, whose milled nut is rotated to elevate or depress the screw. It will be understood that the recoil or jar of the gun can have no influence on the sight, as it is not held by friction or hinged, as those heretofore in use, but is a fixture for every elevation. The said figures also show the arrangement of the breech for carbines. I form upon the breech two eccentrics, *i* and *k*, in such manner that the cartridge, if placed into the barrel, will be pushed home by the former on rotating the breech in position to close it, and will be withdrawn by the cam *k* on rotating back the breech for the purpose of opening it.

The cartridge I prefer to use in my improved gun is composed of a bullet of a peculiar construction and a cartridge-case provided with flanges and a central orifice and containing the powder and fulminate. The bullet has annular ribs the diameters of which are graduated as follows: D is the diameter of the bullet. D is a somewhat larger diameter, penetrating the grooves of the barrel to half their depth over a small surface at *a*. D' is a still larger diameter, taking the whole depth of the grooves over a surface, *b*, which extends over a narrower strip than *a*. By this arrangement the grooves perform their true functions without creating too great friction or leading. Toward the butt of the bullet there is an annular recess, into which is fitted a greased wad for the purpose of cleaning the barrel. In the construction of my improved carbine the relative dimensions of the three principal parts should be carefully observed. I give them as the result of many experiments, as the success of the arm mainly depends upon its proper construction. Three dimensions are essential—viz., those of the pin connecting the barrel with the breech, the thickness of the oscillating breech, and the location of the socket containing the pin. The dimensions of the cartridge-chamber being given, the diameter of the pin should exceed that of the chamber, and the pin itself should be located as near as possible to the orifice of the chamber, and the movable breech should have a minimum thickness equal to the distance from the center of the pin to the center of the chamber.

The improved or oscillating breech may be applied to various sorts of guns or fire-arms, including pistols, in a similar manner to that before described, merely modifying the accessory details to adapt it thereto, as the particular construction of arm may require. When the oscillating breech is applied to double-barreled fire-arms it is preferred that it shall be so contrived that either one of the two hammers or cocks may act on either one of the two needles, strikers, or exploding-rods—that is, on either that of its own or that of the other barrel—so that the arm may be discharged in case of emergency while one barrel is charged and the other open at the breech, as well as while both are charged.

The cartridges recommended for charging these improved arms are those known in France as "Potet's" or "Schneider's," or the "central-fire" cartridges which are in public use.

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

1. The employment in or application to fire-arms of an oscillating breech operating substantially as hereinbefore described.

2. The application of the oscillating breech described to double-barreled fire-arms in such manner that either one of the two cocks or hammers may act either on the needle-striker or exploding-rod of its own barrel or on that of the other barrel, so that the arm may be discharged with one barrel charged and the other barrel open as well as when both are charged.

3. The arrangement relatively to each other and method of fitting together the barrel, breech, and butt, whereby simplicity of construction is combined with strength, durability, and perfect security.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

LOUIS DESCOUTURES.

Witnesses:
E. SHERMAN GOULD,
C. MART.