

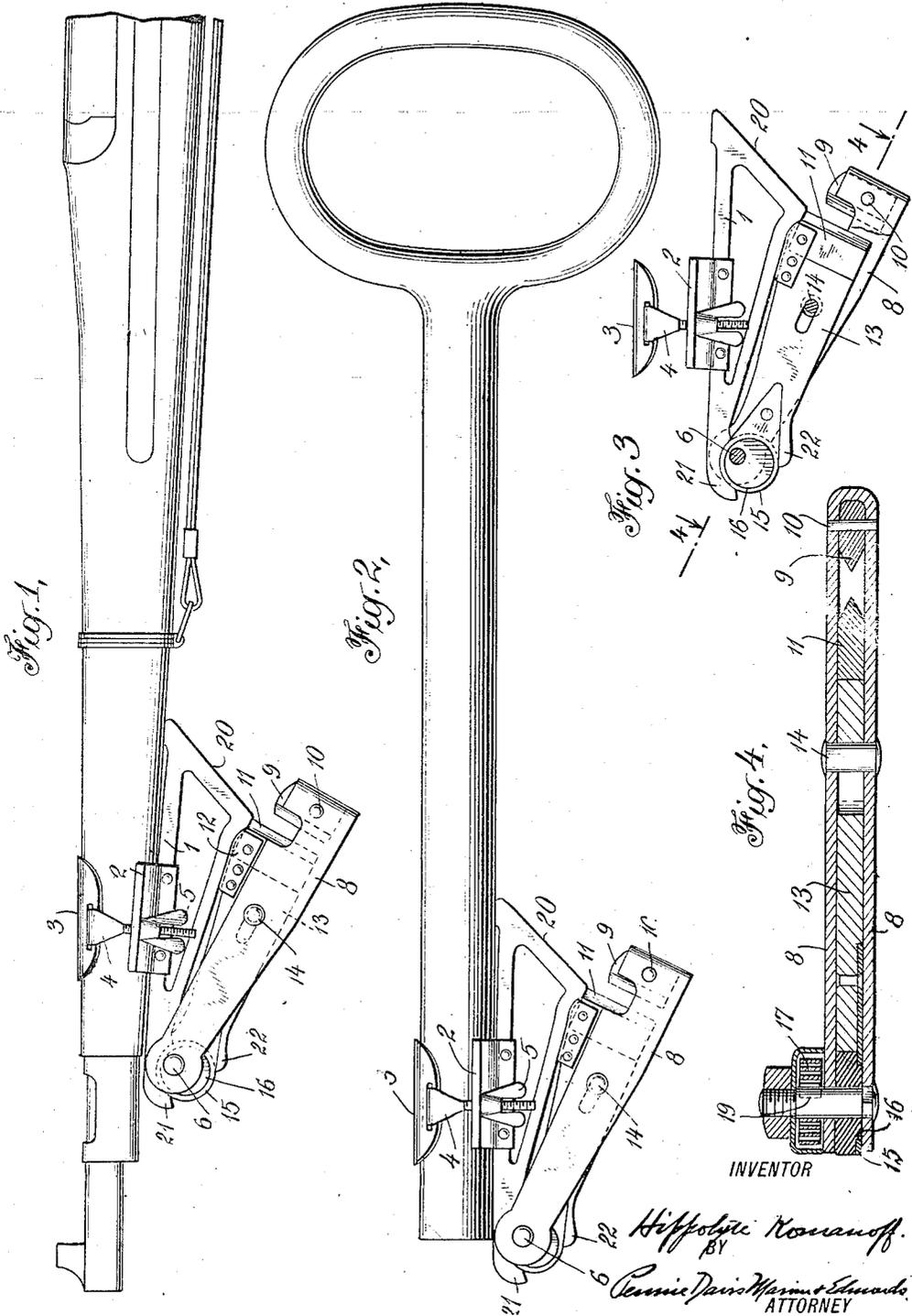
H. ROMANOFF.
WIRE CUTTER.

APPLICATION FILED JAN. 25, 1918.

1,298,403.

Patented Mar. 25, 1919.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 5,

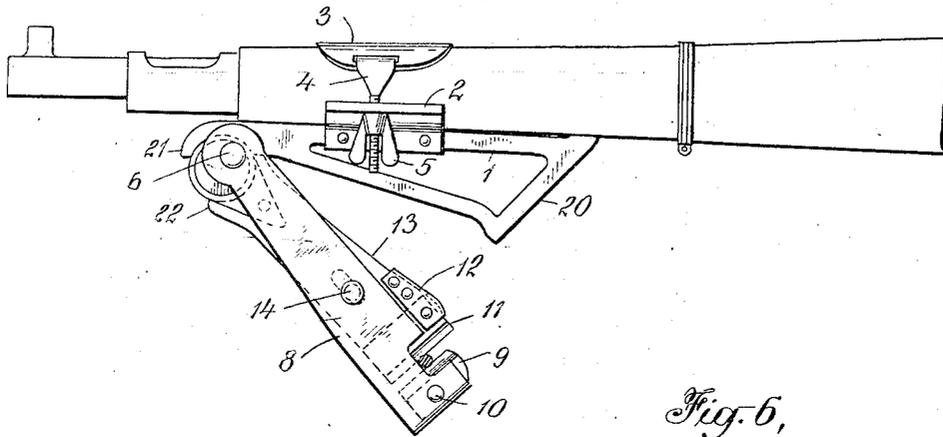


Fig. 6,

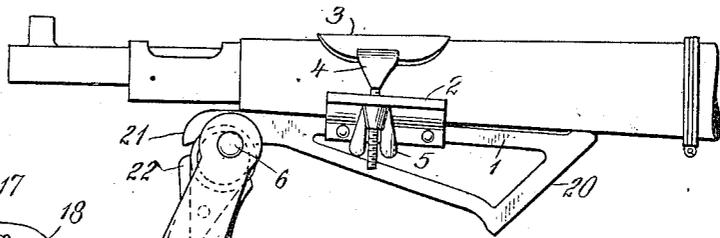


Fig. 7,

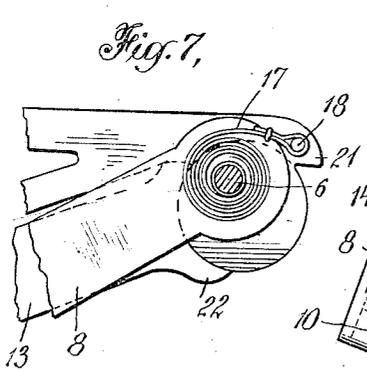


Fig. 8,

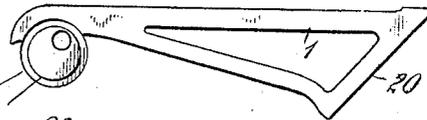


Fig. 9,

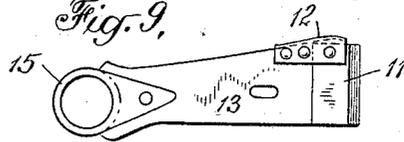
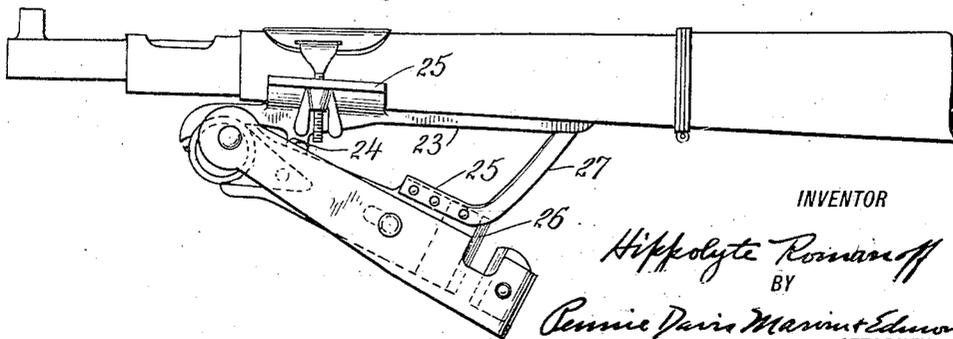


Fig. 10.



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WIRE-CUTTER.

1,298,403.

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Application filed January 25, 1918. Serial No. 213,633.

To all whom it may concern:

Be it known that I, HIPPOLYTE ROMANOFF, a citizen of Russia, residing at 200 West 59th St., in the city of New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Wire-Cutters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to wire cutters of a type particularly suited for war purposes. The device is light in weight, is powerful in its action, is simple in construction, and such parts as are most likely to deterioration by wear or abuse are easily renewable.

The device comprises a stationary member suitable for detachable connection to a handle which may be the barrel of a gun, and to this stationary member is pivoted a supporting member wherein the wire-cutting knives are carried. One of these knives is so mounted that it can be cammed toward the other with a wiping movement while the knife support swings on its pivotal connection with a stationary member and consequently swings about the wire to be cut. The result is a powerful shearing action on the wire to be cut.

Other details and advantages of the invention will become clear from the following detail description taken in conjunction with the accompanying drawings, wherein:

Figure 1 is an elevation of the wire-cutter attached to the barrel of a gun;

Fig. 2 is a similar view with the gun replaced by another form of handle;

Fig. 3 is a side elevation with a part of the knife-supporting member broken away to show the cam and the pivot about which it moves;

Fig. 4 is a transverse section on the line 4-4 of Fig. 3;

Fig. 5 shows the knife-supporting member near the commencement of its swing and with the knives just contacting with the wire to be cut;

Fig. 6 is a similar view at or near completion of the cut;

Fig. 7 is a fragmentary section illustrating the spring by which the knife support is normally held against the stationary member;

Figs. 8 and 9 are details of the cam mechanism; and

Fig. 10 is an elevation of a slightly modified form.

In the construction illustrated in Figs. 1 to 9 inclusive, the stationary member 1 is of triangular outline and can be detachably connected to the barrel of a gun or other suitable operating handle by a clip comprising a base 2 riveted to member 1 and a shield 3 detachably secured thereto by a pair of bolts 4 and wing nuts 5. At the front of stationary member 1 is a pivot pin 6 and eccentric with said pin and integral with stationary member 1 is a cam 7 (Fig. 8) whereby one of the knives is actuated.

Mounted to swing on pivot pin 6 is a knife-supporting housing 8 in which the squared head of pivot pin 6 is seated, as shown in Fig. 4. At the opposite end of this knife-supporting housing is rigidly but detachably mounted, a wire-cutting blade 9 held in place by a rivet 10. The opposing blade 11 is rigidly but detachably connected by a clip 12 and rivets to one end of a carrier 13. This carrier engages with a rivet 14 about which the carrier may swing, but is slotted to permit longitudinal movement of the carrier when the knives are to be brought together. The opposite end of the knife carrier 13 is rounded to fit against the edge of cam 7 so that when the knife support swings downward away from the stationary member as shown in Fig. 5 the knife holder 13 will be cammed forward to advance one of the knife blades toward the other, but in addition, the cammed end of the knife holder will swing inward thereby swinging the holder about pivot 14 and causing its knife to approach the opposing knife with a wiping movement.

As a means for retracting the movable blade after the cut is complete, there is provided a plate 15 (Fig. 9) riveted to the knife carrier and having a circular opening adapted to receive a shoulder 16 (Figs. 4 and 8) of cam 7. This shoulder serves as a cam and through its pull on plate 15 positively retracts the movable blade on the backward swing of the knife carrier.

As a means for facilitating or automatically producing that backward swing of the knife-support there is provided a coiled spring 17 (Fig. 7), one end of which is anchored at 18 to stationary member 1, and the other end of which is attached at 19

(Fig. 4) to pivot pin 6. Because of the rigid connection between pin 6 and the knife-supporting housing 8, the spring acts to swing the support against the stationary member when the device is not in use.

The arrangement of elements above described is well adapted for war purposes and for night use. The muzzle of the gun can be thrust through a wire entanglement and on a backward pull on the gun the wire to be cut will slide along the inclined guiding face 20 of stationary member 1 and will be received between the separated knife blades. A further pull on the gun will cause the knife support to swing on its pivot thereby camming one of the blades toward the other with a wiping movement. But simultaneously the knives describe a rotary movement about the wire to be cut thereby increasing the cutting action and decreasing the strain on the device. Near the completion of the cut the several elements are about in the position shown in Fig. 6. Any further pull on the gun will swing the eccentric cam beyond the longitudinal axis of the swinging member and so tend to separate the knives rather than to crush one of them against the other. Stop shoulders 21 and 22 may be relied on to limit the forward swing of the knife support although as explained above, the knives are well protected from destruction one on the other. As soon as the wire parts on the cut, the knife support is free to swing back to its initial position through the action of spring 17. In the modification illustrated in Fig. 10 the stationary member 23 is not of triangular outline as in Fig. 1, but carries a stop 24 to limit the upward swing of the knife carrier.

The base 25 of the attaching means is integral with member 23, but other details of the attachment are as above described.

The pivotally mounted knife-support, the actuating cam, the retracting plate and other features are as above described in connection with Fig. 1, and the clip or plate 25 whereby the knife 26 is rigidly but removably attached to its carrier by means of rivets, has one end curved upward to form a stop finger 27 normally engaging the stationary member 23 when the knives are separated and movable downward away from that member when the knives are cammed together to cut the wire.

I claim:

1. In a wire cutter, the combination of a stationary member having a cam, a support pivoted to said member, a wire cutting blade rigidly mounted in said support, a second blade, and a carrier therefor mounted to slide in said support and actuated by said cam with a swinging movement when said blades approach one another.

2. In a wire cutter, the combination of a stationary member, means for detachably connecting said member to a handle, a knife support pivotally connected with said member; said member having a cam eccentric to the pivot, a pair of knives carried by said knife support, and a holder for one of said knives pivoted to said support but movable longitudinally on said pivot, said holder engaging said cam and serving to advance its knife with a wiping movement when said support swings on its pivotal connection with said stationary member.

3. In a wire cutter, the combination of a stationary member adapted for attachment to a gun, a knife support pivoted thereto and carrying a detachable knife blade, a knife holder pivoted to said support but adapted to slide therein while swinging on its pivot, and a cam on said stationary member and engaging said knife holder to actuate the same when said knife support swings on its pivotal connection with said stationary member.

4. In a wire cutter, the combination of a stationary member, a knife support pivoted thereto, a pair of knife blades carried by said support, means for advancing one of the knife blades toward the other with a wiping movement when said support swings on its pivotal connection with said stationary member, and a spring for returning said knife support while simultaneously separating said knives.

5. In a wire cutter the combination of a stationary member, a support pivoted thereto and adapted to swing downwardly therefrom, a knife blade carried by said support, a second knife blade movable with respect thereto, a holder for said second knife blade, means for camming said holder forward with a swinging movement, and means for camming said holder backward after a cut has been made, substantially as described.

In testimony whereof I affix my signature.

HIPPOLYTE ROMANOFF.