May 17, 1966 H. E. LEWIS 3,251,114

CARTRIDGE TRIMMER

Filed July 31, 1963

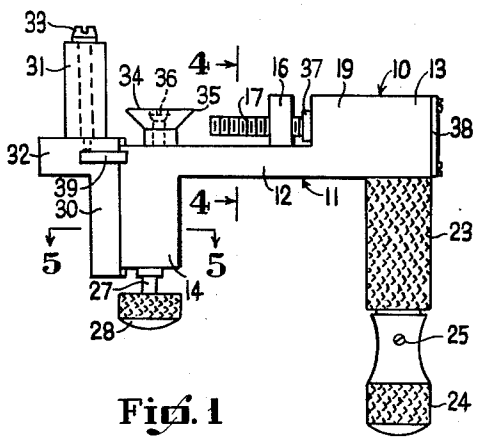


Fig. 1

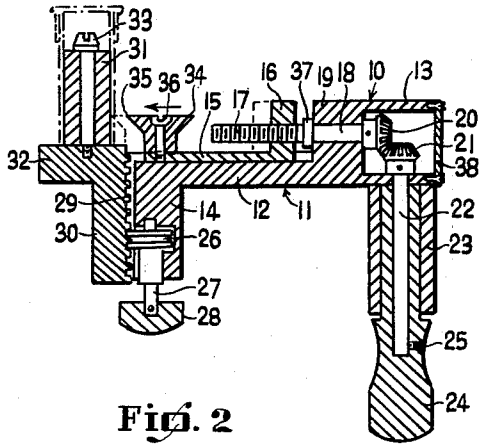


Fig. 2

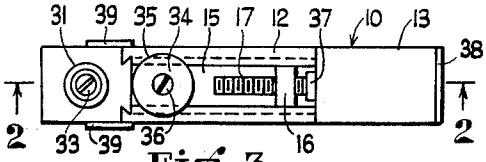


Fig. 3

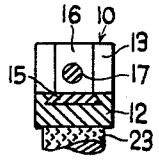


Fig. 4

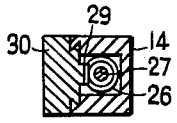


Fig. 5

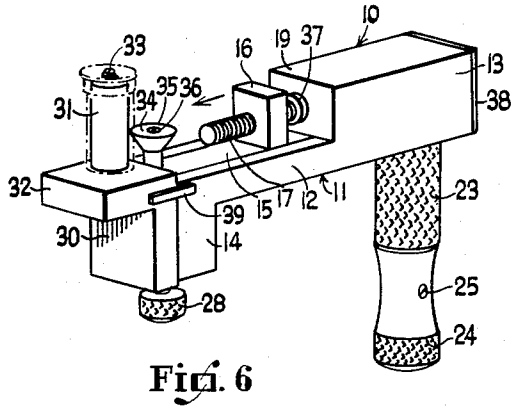


Fig. 6

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CARTRIDGE TRIMMER

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4 Claims. (Cl. 29—1.32)

This invention relates to a tool used in the gunsmith's art for the shortening of rifle cartridges. This operation is necessary for changing cartridges from one length to another in custom rifle work.

Cartridge trimmers, or case trimmers as they are sometimes called, are usually made as a bench tool having a hand crank. The trimmer is, therefore, a bulky device that cannot very well be carried in one's pocket, as gunsmithing is an art that is sometimes practiced by the connoisseum of small firearms of the rifle class as a hobby rather than as a means of likelihood.

It is, therefore, the prime object of this invention to provide a cartridge trimmer, which I personally call a rifle cartridge cutter, that has a minimum number of parts and therefore is a compact tool that can readily be carried in one's pocket.

Another object of this invention is to provide a cartridge trimmer that can be used with or without a cartridge resizing die.

Another object of this invention is to provide a cartridge trimmer that will produce a trimmed cartridge required no other operation other than deburring the inside mouth of the rifle cartridge.

Another object of this invention is to provide a cartridge trimmer that will cut off any desired length of the cartridge that may range from .22 to .45 caliber.

Still another object of this invention is to provide a cartridge trimmer that can be used with equal success by the inexperienced or the beginner in the art of gunsmithing as well as by the professional gunsmith.

These and other objects will be apparent to those skilled in the art.

My invention consists in the construction, arrangements, and combination, of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, specifically pointed out in my claims, and illustrated in the accompanying drawings, in which:

FIGURE 1 is a side view of this invention.

FIGURE 2 is a sectional view of this invention taken substantially along line 2—2 of FIGURE 3 as viewed in the direction indicated by the arrows.

FIGURE 3 is a top view of this invention.

FIGURE 4 is a sectional view of this invention taken substantially along line 4—4 of FIGURE 1 as viewed in the direction indicated by the arrows.

FIGURE 5 is a sectional view of this invention taken substantially along line 5—5 of FIGURE 1 as viewed in the direction indicated by the arrows.

FIGURE 6 is a pictorial view of this invention ready for use.

Similar reference characters refer to similar parts throughout the several views of the drawing.

In the drawing I have used the numeral **10** to designate a rifle cartridge trimmer, which is made of hardened steel or its equivalent, and which embodies a frame **11** having a normally horizontal bed **12** that has one end terminating in a hollow gear box **13** and the other end terminating in a downwardly extending member **14** that is at right angle to the aforesaid bed **12**, which is provided with recessed V-guides or ways, as they are sometimes called, in which is slidably fitted a mating member **15**, on one end of which is mounted the trimming roller slide **16** having a horizontally disposed internally threaded opening in which screws the slide driving screw

17 that is provided with a smooth shank **18** that rotates in the head **19** of the aforesaid hollow gear box **13**, in which it terminates with securement to the bevel gear **20** that is in right-angle engagement with the bevel gear **21** that is secured on the upper end of the vertically disposed trimmer drive gear shaft **22**, which extends vertically downward through the knurled handle **23**, in which the aforesaid drive gear shaft **22** freely rotates. The lower end of the shaft **22** is secured in the upper end of the knurled knob **24** by means of the set screw **25**.

Returning now to the already mentioned downwardly extending member **14**, as it is shown in FIGURE 2 of the accompanying drawing, one will see that this member is provided with a hollow lower end in which is rotatably placed a worm screw **26** on the upper end of the vertically disposed shaft **27**, which projects downwardly beyond the lowermost end of the aforesaid downwardly extending member **14** to terminate in the knurled knob **28**, which sets the length of the cartridge to be trimmed, as will hereinafter be described in the way in which this novel invention is used. The worm screw **26** engages the rack teeth **29** on the face of the cartridge elevation member **30**, which has the shape of an inverted L when viewed from the side, and which has its aforesaid face formed to slide within V-shaped guide in the aforesaid downwardly extending member **14**, as clearly shown in FIGURE 5 of the accompanying drawing.

A free turning roller **31** of any desired cartridge diameter is vertically mounted on top of the horizontally disposed member **32** of the cartridge elevation member **30** by means of the roller shoulder screw **33**, while the trimming roller **34**, having a horizontally disposed trimming edge **35**, is rotatably mounted on one end of the aforesaid member **15** of this invention by means of screw **36**.

Only three minor details of construction of this novel invention need yet be mentioned. The collar **37** on the driving screw **17** obviously prevents the aforesaid driving screw **17** from having horizontal movement. This aforesaid collar **37** can, of course, be made integral with the driving screw if so desired. A plate **38** is secured on the outer end of the aforesaid hollow gear box **13** in order to permit inspection or replacement of the two bevel gears contained therein, or to permit the greasing of these gears. A steady plate **39**, that is rectangular in form, is fixed to each side and upper end of the aforesaid cartridge elevation member **30** in order to provide additional stability to this member **30**, when the same is being vertically adjusted for the trimming of a cartridge.

Although it has not been shown on the drawing for reasons of clarity, the steady plates may be suitably engraved with a horizontal indicating line that will point to suitable numerical graduations engraved vertically on the sides of the aforesaid downwardly extending member **14**, thereby facilitating the vertical adjustment of this invention for the amount of cartridge to be trimmed from the same.

It is, of course, understood by those experienced in the art that, while this novel invention is designed primarily for rifle cartridges, it may also be adapted to trim cartridges of any other type of hand firearm if so desired.

The just given construction of this invention clearly shows that the device is not only a rugged one but also one that can be utilized with maximum benefit. It is representative of the very best of modern mechanical mechanisms in order to produce a cartridge trimmer that is almost self-explanatory in its method of use. This cartridge trimmer that is herein described can, of course, accommodate any caliber cartridge merely by substituting roller **31** for that roller of the desired diameter for the caliber of cartridge one desires to shorten.

To adjust the length to be cut off of the cartridge after it has been placed over roller **31**, one has only to rotate

the knurled knob **28** that will, of course, elevate or lower the cartridge elevation member **30**, on which the aforesaid roller **31** is secured. To actually trim the cartridge to its desired length after the above noted adjustment has been made, one has only to grasp the cartridge to be trimmed in one hand and the cartridge trimmer in the other hand with two fingers and the thumb on the knurled knob **24** and turn the entire device in a clockwise motion. To feed the trimming roller **34** into the trimming position, one need only rotate the aforesaid knurled knob **24** with the third finger of one's right hand, which will cause the member **15** to slide the trimming roller **34** in a position whereby the trimming edge **35** will cut or trim the cartridge as the entire device is rotated, as has already been described.

Some changes may be made in the construction and arrangement of my cartridge trimmer without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

1. A cartridge cutter comprising, a frame whose top is a horizontal bed, the frame having an end at substantially right angles to said bed, a cartridge elevation member having a side slidably secured to said end to move in a vertical direction and a substantially flat top, a cylindrical

member of a size to fit inside a cartridge case secured to said substantially flat top with the axis extending in a vertical direction, a cutter support member slidably secured to said bed to move towards and away from said cylinder, a cutter mounted on said member and directed towards said cylinder, means for adjusting the position of said cartridge elevation member and means for adjusting the position of said cutter support member.

2. The combination of claim **1** in which the securing means for the cylinder includes a shaft extending axially through said cylinder to rotatably secure the cylinder to the cartridge elevation member.

3. The combination of claim **1** in which the cutter is a disk having a sharp circular edge and a shaft extends vertically through said disk and is secured to said cutter support member.

4. The combination of claim **1** in which the means for adjusting the position of the cartridge elevation member includes a knob and the means for adjusting the position of the cutter support member includes a knob.

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RICHARD H. EANES, JR., *Primary Examiner.*