Oct. 18, 1932. E. H. STRATTON 1,883,831

STRING CUTTER

Filed Oct. 12, 1931

Fig-1-

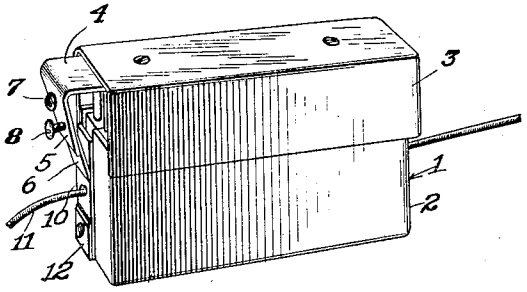


Fig-2-

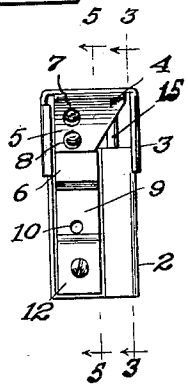


Fig-3-

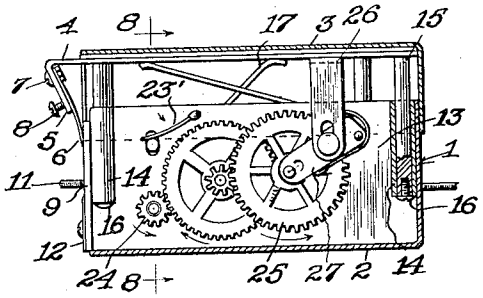


Fig-4-

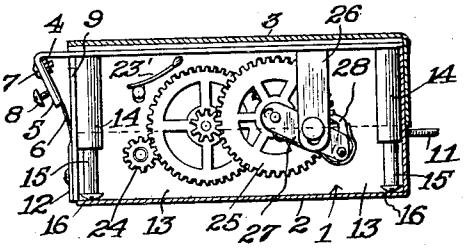


Fig-5-

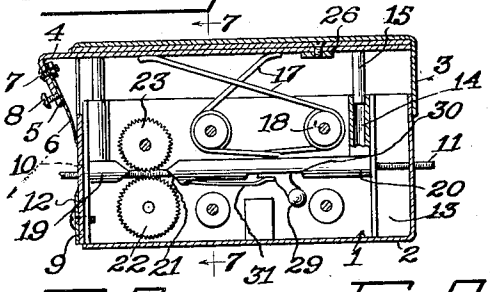


Fig-6-

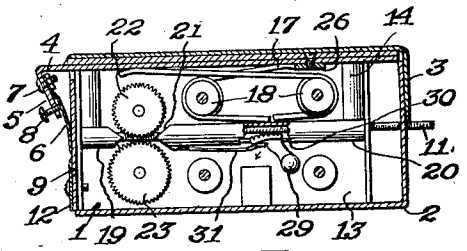


Fig-7-

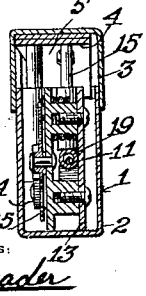


Fig-8

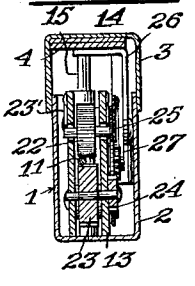


Fig-9-



WITNESS:
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Patented Oct. 18, 1932

1,883,831

UNITED STATES PATENT OFFICE

EMIL H. STRATTON, OF BOISE, IDAHO

STRING CUTTER

Application filed October 12, 1931. Serial No. 568,458.

This invention relates to cutters for string, cord or the like and is especially adapted for use with string unwound from a supply for the purpose of severing the string as desired or in suitable lengths and has for the primary object, the provision of a device of the above stated character which may be conveniently carried and operated within a person's hand without interfering with the use of the hand when wrapping and tying the string about an article and therefore provides a convenient medium for severing the string after the above described operation is completed.

Another object of this invention is the provision of means for passing the string through the device providing a holder and guide therefor and which is adapted to automatically feed the string outwardly therefrom during each severance or cutting of the string, thus positioning the end of the latter so that it may be easily grasped for permitting the person to pull the string through the device and from the supply to a desired length for wrapping and tying an article.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a perspective view illustrating a string cutter constructed in accordance with my invention.

Figure 2 is an end elevation illustrating the same.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a similar view showing the parts positioned in the act of severing the string.

Figure 5 is a sectional view taken on the line 5—5 of Figure 2.

Figure 6 is a sectional view similar to Figure 5 except showing the parts positioned in the act of severing the string.

Figure 7 is a sectional view taken on the line 7—7 of Figure 5.

Figure 8 is a sectional view taken on the line 8—8 of Figure 3.

Figure 9 is a detail view illustrating a latch element.

Referring in detail to the drawing, the numeral 1 indicates a casing including sections 2 and 3 having telescopic relation. One end of the section 3 is fully opened to permit one end of a knife supporting plate 4 to extend outwardly of the casing 1. The plate 4 is detachably secured in the section 3 and has its exposed portion or that portion which is arranged outwardly of the casing bent angularly to provide a knife attaching ear 5 which inclines inwardly toward one end of the casing 1 and has detachably secured thereto a knife blade 6 by a fastener 7. An adjusting screw 8 is carried by the ear 5 and bears against the knife blade 6 for the purpose of varying the tension of the knife blade against a working plate 9 secured to one end of the section 2 of the casing. The working plate is provided with an opening 10 to permit a string 11 to extend therethrough after passing through the casing as shown in Figure 1 and coming from a suitable supply. A knife blade 12 is detachably secured to the wear plate at the opposite side of the opening 11 from the knife blade 6 and is adapted to cooperate with the latter in severing the string when said blades are moved toward or in engagement with each other.

An arbor or frame 13 is mounted in the section 2 of the casing 1 and is provided with sleeves 14 to slidably receive posts 15 carried by the knife plate 4. The posts 15 extend through the sleeves and have threaded in their ends headed fasteners 16 to provide stops for limiting the movement of the sections 2 and 3 away from each other. The sections 2 and 3 are normally urged apart by leaf springs 17 bearing thereagainst and carried by the arbor or frame as shown at 18. The urging of the section 3 away from the section 2 of the casing normally positions the knife blade 6 away from the knife blade 12 and also positions the knife blade 6 so as to uncover the opening 11 so that the string may be pulled through the device as desired.

The opposite end of the casing 1 from the knife blade is provided with an opening to permit the string to enter said casing. Tubes 19 and 20 are carried by the frame 13 and arranged in alignment with the openings of the casing so as to permit the string to pass therethrough and the inner or adjacent ends of the tubes are relatively spaced and cut away as shown at 21 to provide spaces for receiving feed rollers 22 and 23 so that the serrated peripheries thereof may engage the string when passing from the tube 20 to the tube 19. The feed roller 23 is mounted on the frame or arbor so as to have rotary and a limited sliding movement and is normally urged in the direction of the string by a spring 23'. The feed roller 22 is journalled to the arbor or frame and the axle thereof is provided with a pinion 24 meshing with a gear of a train of gears 25 carried by the frame 13.

An arm 26 is secured to the knife plate 4 and has pivotally and slidably connected thereto a ratchet arm 27 which in turn has one end pivotally and slidably mounted on the axle of one of the gears of the train of gears 25 and the other end of the arm 27 carries a spring pressed pawl 28 engaging the teeth of one of the gears of the train of gears so that during the movement of the sections 2 and 3 toward each other for the purpose of severing the string, the arm 27 ratchets relative to the train of gears and on the return of the sections 2 and 3 of the casing to their normal position by the influence of the springs 17, the arm 27 imparts movement to the train of gears which in turn rotates the feed roller 22 causing the string to be fed outwardly of the casing, exposing the free end so that it may be readily grasped by a person for drawing the string through the device and from the supply to a desired length for wrapping and tying an article.

A pivoted pawl 29 is carried by the frame or arbor and operates through a slot 30 in the tube 20 to engage the string and is urged in engagement therewith by a spring 31. The pawl 29 is so arranged as to permit the string to be fed outwardly of the casing freely by the feed roller 22 but a reverse movement of the string will be retarded or stopped by the pawl 29 gripping the same within the tube.

In operation, a string from a supply is threaded through the device and the device is then held within a person's hand while the string is drawn therethrough and wrapped and tied about an article and after the stated operation is complete, the person squeezes or moves the sections 2 and 3 of the casing toward each other causing the knife blades to sever the string and as the squeezing action upon the sections 2 and 3 is released, the spring 17 returns the sections to their initial position which imparts movement to the train of gears, rotating the feed roller and thereby feeding the end of the string out of the casing so that it may be readily grasped for further use. The device is to be manufactured on a scale wherein it will be compact so that it can be conveniently carried and operated within a person's hand and will not interfere with the use of the hand during the wrapping and tying of an article. The device thus carried and operated always maintains the end of the string readily accessible for use by the person employing the string to wrap and tie articles.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of my invention, as claimed.

Having thus described my invention, what I claim is:

1. A string cutter comprising a portable holder including telescopic sections, a frame in one of said sections, means slidably connecting the other section to said frame, tension means between the last named section and the frame, knives carried by said sections, guide tubes in the frame to have a string from a supply threaded therethrough and having their inner ends relatively spaced, feed rollers engaging the string between the inner ends of the tubes, and a pawl and ratchet mechanism between one of the feed rollers and one of the sections to impart rotation to the last named feed roller to cause the string to be fed outwardly of the holder after each severance of the string by the blades.

2. A string cutter comprising a portable holder including telescopic sections, a frame in one of said sections, means slidably connecting the other section to said frame, tension means between the last named section and the frame, knives carried by said sections, guide tubes in the frame to have a string from a supply threaded therethrough and having their inner ends relatively spaced, feed rollers engaging the string between the inner ends of the tubes, a pawl and ratchet mechanism between one of the feed rollers and one of the sections to impart rotation to the last named feed roller to cause the string to be fed outwardly of the holder after each severance of the string by the blades, one of said tubes having a slot, and a spring pressed pawl carried by the frame and engaging the string through the slot to prevent reverse movement of the string relative to the holder.

3. A string cutter comprising a casing, an operating medium yieldably connected to the casing and forming a closure for the latter, a cutting blade carried by said operating medium, a second cutting blade carried by the casing to cooperate with the first cutting blade in severing a string, a sectional guide tube

carried by the casing and receiving and directing the string to said blades and having the sections thereof spaced, feed elements engaging the string between the spaced sections of the tube, and means actuating the feed elements by the movements of the operating medium.

4. A string cutter comprising a casing, an operating medium yieldably connected to the casing and forming a closure for the latter, a cutting blade carried by said operating medium, a second cutting blade carried by the casing for cooperating with the first cutting blade in severing a string, a guide tube carried by the casing to receive and direct the string to the blades and including sections arranged in the same plane with each other and spaced, rotatable feed elements carried by the casing and engaging the string between the sections of the tube, and means operating the feed elements by the movements of the operating medium to cause severance of the string by the blades and advance of the string to the blades after each severance, and a tension means carried by one of the sections of the tube to engage the string to prevent a reverse movement thereof and away from the blades.

5. A string cutter comprising a portable casing of substantially rectangular shape, a tension operating medium slidably secured to the casing and capable of self-movement in one direction and forming a closure for said casing, a cutting blades carried by said operating medium, a second cutting blade carried by the casing to cooperate with the first cutting blade in severing a string, a guide tube in the casing for directing the string to the cutting blades and including spaced sections, feed elements engageable with the string between the sections of the tube, and ratchet means between the feed elements and the operating medium.

In testimony whereof I affix my signature.

EMIL H. STRATTON.