Sept. 4, 1928. 1,682,794

W. G. MOORE

RIBBON SAFETY RAZOR

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Fig. 1.

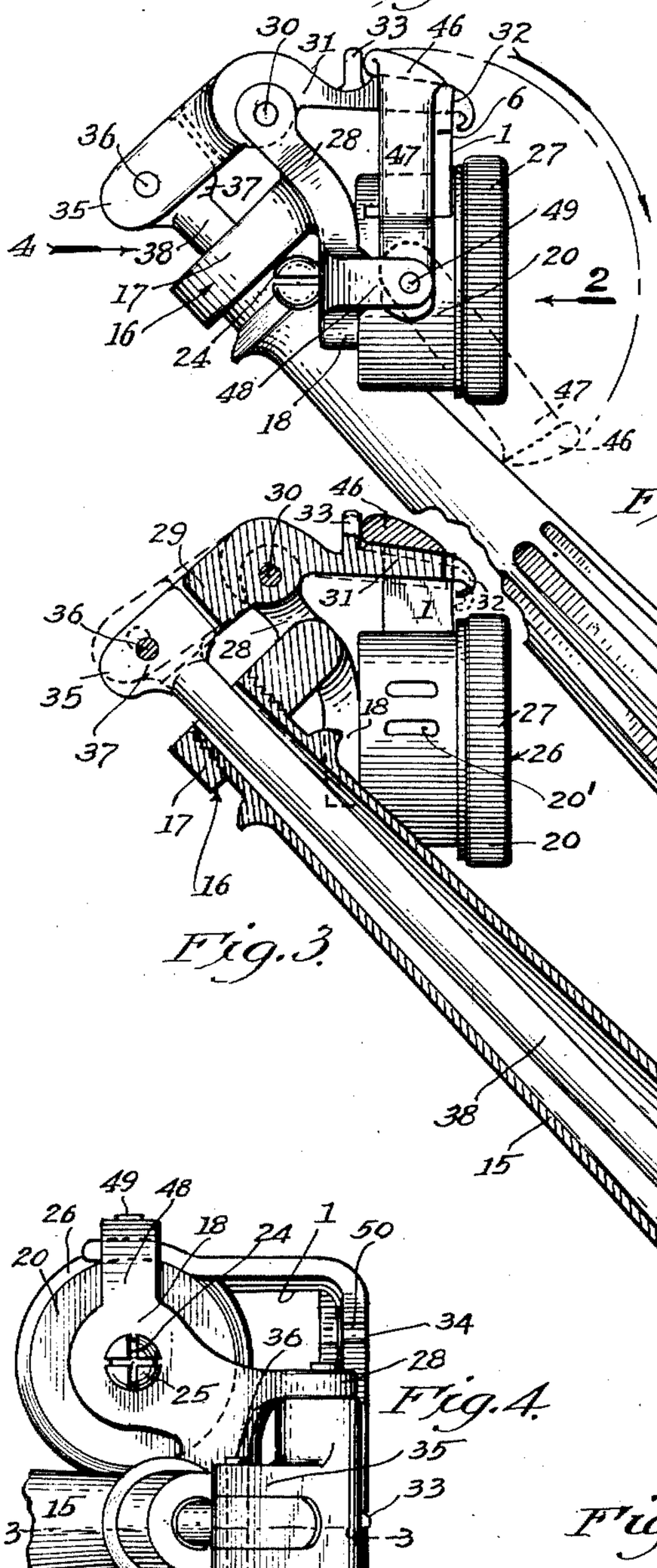


Fig. 2.

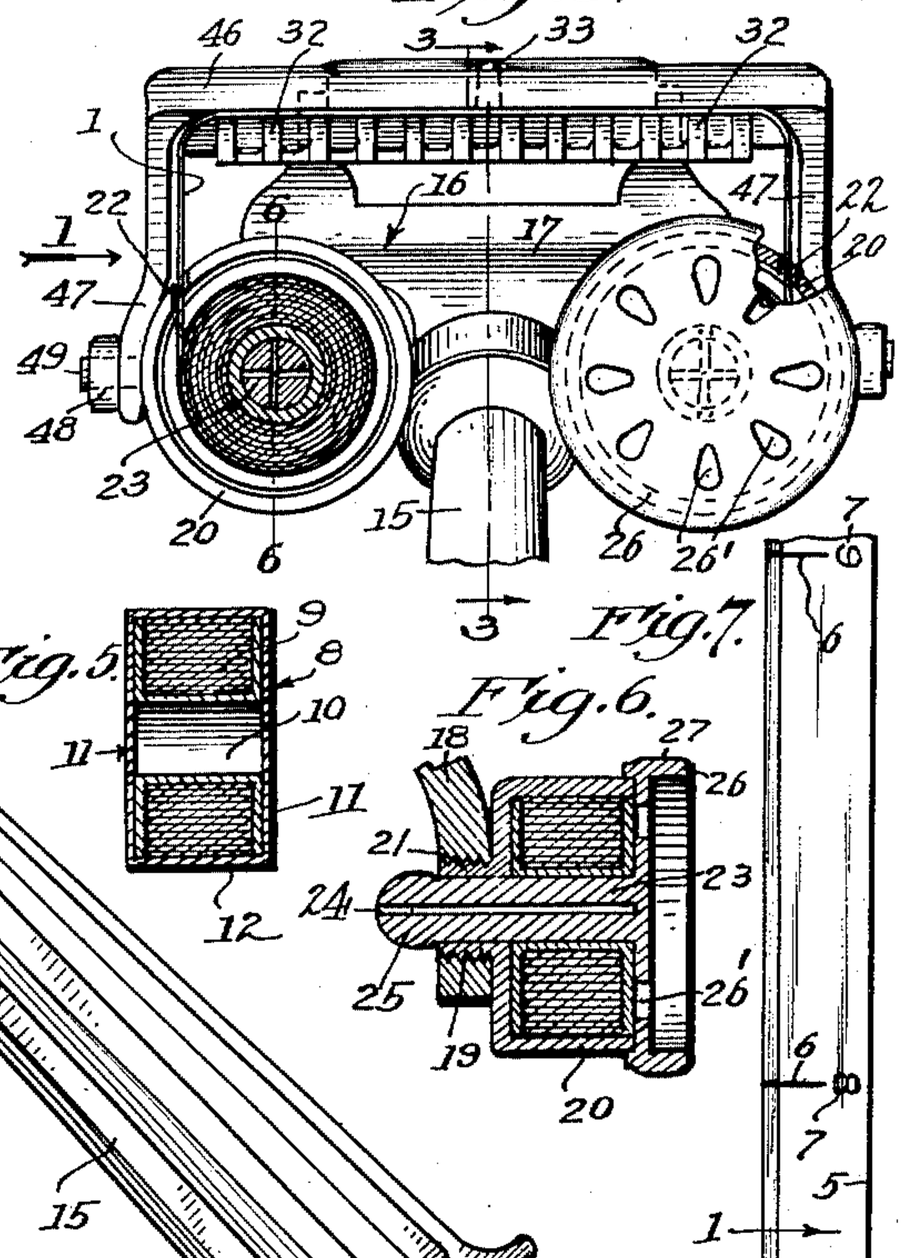


Fig. 5.

Fig. 6.

Fig. 7.

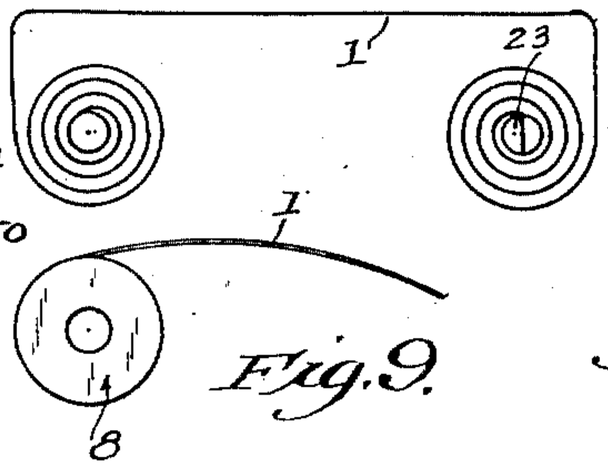
Fig. 8.

Fig. 3.

Fig. 10.

Fig. 4.

Fig. 9.



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UNITED STATES PATENT OFFICE.

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RIBBON SAFETY RAZOR.

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My invention is a ribbon safety razor in which a thin ribbon of steel, sharpened on one edge, is movable in relation to a holding device to allow shaving.

An object of my invention is the construction of a safety razor in which the cutting element or blade is a ribbon of steel, this ribbon being shiftable to allow use of the sharp parts of the ribbon when the edge which has been used becomes dull.

Another object of my invention is the construction of a safety razor in which a ribbon of steel may be mounted in a compact coil on a spool or the like and this spool inserted in a housing or a case on the razor, the end of the blade is drawn across a guard and held by a holding device, the free end being attached to a winding spool or the like. Hence when it is required to renew the cutting edge it is only necessary to wind in the ribbon on the empty spool thereby drawing same off of the spool containing the supply of ribbon.

Another object of my invention is an arrangement for varying the pressure between the comb like guard and the holding device. My invention also comprehends the article such as a ribbon of steel sharpened on one edge and mounted in a carton or cartridge in the form of a coil.

My invention in its various aspects will be more readily understood from the following description and drawings, in which:

Figure 1 is a side elevation of my razor as if taken in the direction of the arrow 1 of Fig. 2.

Figure 2 is a front elevation of the upper part of the razor taken in the direction of the arrow 2 of Fig. 1 showing the cartridge and housing for the ribbon open.

Figure 3 is a longitudinal section through the major portion of the center of my razor, as if taken on the section 3—3 of Figs. 2 or 4 showing the pressure controlling rod and operating knob in elevation.

Figure 4 is a rear view of the upper end of my razor as if taken in the direction of the arrow 4 of Fig. 1.

Figure 5 is a transverse section through a cartridge or carton in which the ribbon blade is marketed.

Figure 6 is a transverse section through one of the magazines containing the ribbon spool, as if taken on the line 6—6 of Figs. 2 or 4.

Figure 7 is a face view of a section of the ribbon.

Figure 8 is a cross section of the ribbon exaggerated in size.

Figure 9 is a diagram showing the first step in threading the ribbon in the razor by uncoiling part of same from the cartridge.

Figure 10 is a diagram showing the ribbon partially unrolled from the cartridge, the straight part would extend over the holder and the used part coiled on the receiving spool.

Referring to my invention, the type of ribbon is substantially as follows, being illustrated particularly in Figs. 2, 5, 6, 7, 8. 9 and 10.

This ribbon is designated by the numeral 1 and has flat upper and lower surfaces 2 and 3, a sharp cutting edge 4, and a dull back edge 5. A series of graduations 6, having measuring numerals 7 or other indicia, are marked on the ribbon or blade, these markings indicating how much of the ribbon has been used and therefore how much is left in the cartridge.

The form of cartridge in which I market the ribbon is designated in Fig. 5, in which a channel shaped spool 8 has a coil 9 thereon of ribbon. This spool is enclosed in a paper or cardboard carton, this preferably having a central hollow section 10, side walls 11, and a peripheral covering 12. This carton or covering may be of water-proofed cardboard or thin paper and forms a water tight and air tight seal for the ribbon and is torn off when the spool is inserted in the cartridge. The ribbon may be of any suitable length, for which I find about 36 inches is sufficient to give a large number of shaves and this ribbon is dull on both edges for a short distance from each end, for which I find about 4 inches is sufficient. I prefer making the ribbon of a non-staining and non-rusting steel such as some of the so called cobalt high speed steels, and in addition coat the surfaces and the cutting edge of the ribbon with a protective composition of suitable character.

The holders for the ribbon are constructed substantially as follows, having reference particularly to Figs. 1, 2, 3, 4 and 6.

A tubular handle 15 preferably being larger at the base than at the upper end, has a bracket 16 preferably screw threaded on the upper end and rigidly connected thereto, this bracket has a depending plate 17, the plate having extensions 18 with screw threaded openings 19. A cartridge or spool holder 20 is cup shaped and has a screw threaded spindle 21 which is threaded into the threaded

openings 19. The container 20 has drainage openings 20′. The cartridge holder is secured tight in these threads to be non-rotatable so that a slot 22 for the passage of the ribbon will remain in the same position. The spool is inserted in the supply container 20. A split shank 23, which has two diametric cuts 24, and a slight knob 25 on the end, is pressed through the spool and fits in the spindle 21. The head 26 of the shank is in the form of a disc having openings 26′ and an annular rim 27 preferably knurled forming a hand grip. When the knob is secured in the cartridge holder the shank is compressed sufficiently to allow rotation of the spool on the shank or if the friction is sufficient the shank may rotate in the threaded spindle 21.

The guard is constructed substantially as follows:

A pair of arms 28 extend upwardly from the plate 17 and a lever 29 is mounted in said arms on a pivot pin 30, thus allowing the lever to have a rocking motion. The forward end of the lever forms the guard 31 of the razor having comb like teeth 32 at the extreme end. A holder stop lug 33 is positioned preferably centrally back of the guard for a purpose hereunder set forth, and ribbon stop pins 34 are positioned to engage the back of the plate or ribbon. The guard has a slightly inclined surface so that the ribbon moving across it tends to back-up against the pins 34.

The rear end of the lever 29 is bifurcated as indicated by 35 and is connected by a pivot pin 36 to the head 37 of the pressure controlling rod 38 which extends through the tubular handle having screw threads 39 at its lower end. A threaded nut 40 fits the end of the handle, being screw threaded on the threads 39 of the pressure control rod. This nut has a flange 41 and is retained in place by an internally screw threaded collar 42 which is tightly threaded on the external threads 43 on the end of the handle, this collar having an inturned rim 44 engaging the flange 41 of the nut. The nut is terminated in a knob 45 which forms a finger grip for turning same and thus shifting the pressure rod longitudinally and oscillating the lever 29 on the guard, as shown in the solid and dotted lines of Fig. 3.

A holder 46 extends transversely across the guard and has side bars 47 at each end which are pivotally connected to the journal brackets 48 which project outwardly from the extensions 18 of the rigid plate 17, there being pivot pins 49 forming a pivoted connection and allowing the holder to swing from the position indicated in solid lines of Fig. 1 to the dotted position of such figure. The holder when in its upper or operative position bears against the stop lug 33. The holder is provided with a pair of slots or grooves 50 in which the pins 34 fit, such pins engaging the rear dull edge of the ribbon.

The manner of using my razor is substantially as follows:

As above described, the cartridge or carton containing the ribbon wound on the spool is inserted in the supply cartridge holder, this being preferably the left hand holder as shown in Fig. 2, it being understood that the enclosing wrapper of paper or cardboard is first removed. The free end of the ribbon is drawn through the slot 22 in the cup 20 and with the holder 46 in the dotted position, shown in Fig. 1, the blade is drawn across the guard, the free end being inserted through the slot 22 in the opposite cartridge holder but in this case no cartridge is contained therein, the free end of the blade being preferably slipped through the cuts in the shank 23, thus the free end of the ribbon is securely held. Sufficient of the ribbon would be wound on such shank until the dull front edge has passed over the guard. The holder may then be swung into the upper position, as shown in Fig. 1. The knob 45 would previously have been loosened, allowing the guard to drop slightly into the dotted position shown in Fig. 3, and when the holder is in its upper position the knob may be turned in the reverse direction pressing the ribbon tightly against the holder and the pins 50 engaging the rear dull edge of the ribbon secure the same with the cutting edge spaced the proper distance in front of the holder 46. The razor is thus in a position for shaving and may be utilized in the usual manner for effecting a shave. When the guard becomes clogged with the lather and hair being shaved, the guard may be loosened up by manipulating the knob and the accumulation washed away under a water faucet or by stirring in a basin, thus cleaning the razor to complete the shave.

After the shaving operation is completed, the ribbon, guard and holder, may easily be cleaned by loosening the guard by manipulating the knob and swinging the holder into the dotted position of Fig. 1, in which case a free flow of water may pass around the ribbon, the guard and the holder. It is immaterial whether water gets in the spool or cartridge as the ribbon is non-rustable and it is also immaterial whether this is thoroughly dried after shaving or not. As it is intended that the ribbon will be discarded after completely using same, it is not necessary to dry the part of the ribbon which has been wound on the empty shank or on a spool which may be inserted in such shank. It is to be understood that should it be desired to save the ribbon for resharpening, it may be wound on the spool instead of directly on the shank.

From the above description it will be seen that I have developed a safety razor which employs a thin sharpened ribbon of steel for the cutting implement and that this ribbon may be handled in convenient cartridges

on suitable spools for unwinding, the ribbon may pass across a properly shaped guard and be supported by a holder and thus enable a person to shave with a keen edged blade. It is also apparent that the procedure of shifting the ribbon to secure a new shaving edge is quite simple, it being merely necessary to loosen the guard and wind in the ribbon on the empty shank or spool, this drawing it off the cartridge spool.

Various changes may be made in the principles of my invention without departing from the spirit thereof, as set forth in the description, drawings and claims.

I claim:

1. A ribbon safety razor, comprising in combination, a handle, a fixed structure connected thereto having a supply cup for a coil of ribbon sharpened on one edge, a container to receive the used ribbon, a guard over which the ribbon passes, and a shiftable holder holding the ribbon against the guard, said guard being pivotally mounted in relation to the handle, a pressure control rod extending through the handle and operated by a nut on the end of the handle, said rod having means pivotally connecting same to the guard.

2. A ribbon safety razor comprising in combination, a handle, a plate rigidly connected thereto, a pair of cup like containers mounted on the plate, each container having a slot, and one being a supply container, a coil of ribbon sharpened on one edge mounted in one of the containers, a guard, means connecting same to the plate, the ribbon passing over the guard and through the slot in the other container, and means to coil the used ribbon in said latter container.

3. A ribbon safety razor, as claimed in claim 2, the supply container having a rotatable shank extending there-through, the ribbon unwinding around said shank.

4. A ribbon safety razor, as claimed in claim 2, the means to coil the used ribbon, comprising a shank rotatably mounted in the receiving container, having means to engage the end of the ribbon and means to rotate said shank.

5. A ribbon safety razor comprising in combination, a handle, a plate rigidly connected thereto, a supply and receiving container rigidly connected to the plate, shanks rotatably mounted in said containers, the shank in the supply container being adapted to support a spool of supply ribbon, the shank in the receiving container being adapted to receive a coil of used ribbon, a guard adjustably mounted in relation to the handle, positioned to receive a strip of ribbon between the supply and the receiving containers, a shiftable holder to hold the ribbon on the guard, and means mounted on the handle to adjust the guard.

6. A ribbon safety razor comprising in combination a handle, a fixed structure connected thereto, having a supply cup for a coil of ribbon sharpened on one edge, a container to receive the used ribbon, a guard over which the ribbon passes, a shiftable holder holding the ribbon against the guard, and means operable through the handle and connected to the guard to shift such guard in reference to the holder to increase or decrease the pressure between the holder and the guard.

7. A ribbon safety razor comprising in combination a tubular handle, a fixed structure connected thereto, having a guard pivotally connected to the fixed structure, a rod extending through the handle and connected to the guard, a pair of containers, one having a spool of ribbon therein and the other having means to roll the used ribbon, the ribbon passing over the guard, a holder pivotally connected to the said fixed structure and fitting over the ribbon and over the guard, and means to actuate the said rod to press the guard and ribbon against the said holder.

8. A ribbon safety razor comprising in combination a tubular handle having a bracket at its upper end, with a depending plate secured to the bracket, extensions from said plate, cup shaped cartridge or spool holders secured in openings in the said plate, a spool having a ribbon in one of the holders, means to coil the used ribbon in the other holder, a guard pivotally connected to the bracket, means connecting a rod to the said guard, the rod extending through the tubular handle and having an operating nut on the end of the handle, and a holder pivotally connected to the bracket to swing over the ribbon and guard.

9. In a ribbon safety razor a plate having a pair of screw threaded openings, a cup shaped holder threaded in said openings, said holder having an opening in the base, a split shank fitted in the said opening in each holder. a cartridge in the form of a spool having ribbon thereon mounted on one of the shanks, means to coil ribbon on the other shank, a guard over which the ribbon passes, and a holder to retain the ribbon on the guard.

10. In a ribbon safety razor a handle having a bracket structure with a plate, said plate having a plurality of openings, a cup shaped holder threaded in each of the openings, each holder having an opening in the base, a split shank having a head, the shank fitting in the said opening in a holder, a cartridge in the form of a spool of coiled ribbon on one of the shanks, a guard connected to the bracket, the ribbon passing over the guard, a holder over the ribbon, and means to press the guard to force the ribbon against the holder.

In testimony whereof I have signed my name to this specification.

W. G. MOORE.