Aug. 30, 1932. G. C. GREEN 1,874,740

SAFETY RAZOR BLADE STROPPER

Filed Sept. 23, 1931

Fig. 1

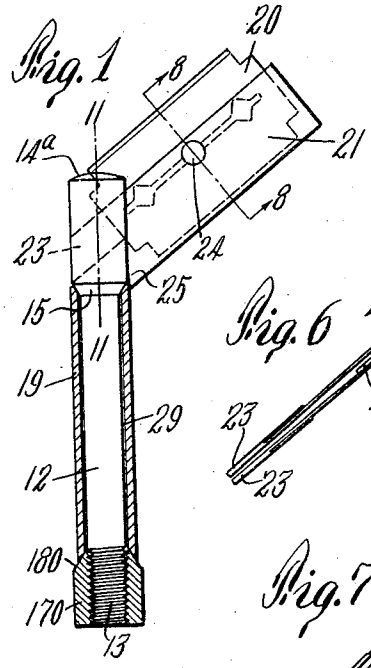


Fig. 6

Fig. 3

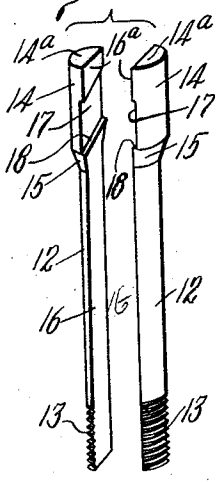


Fig. 4

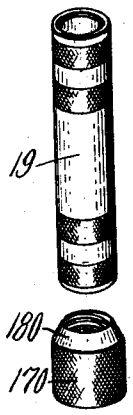


Fig. 5

Fig. 7

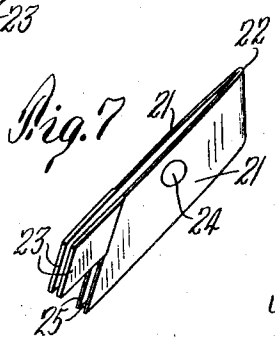


Fig. 2

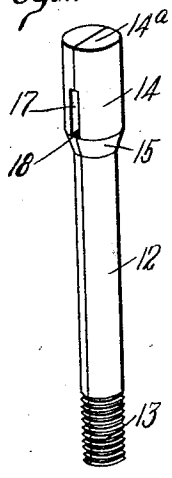


Fig. 8

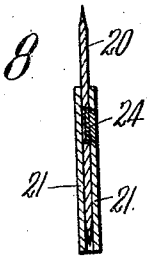


Fig. 9

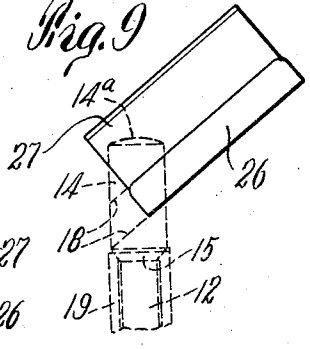


Fig. 10



Fig. 12

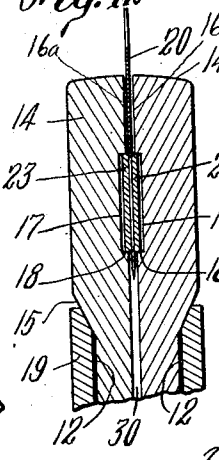
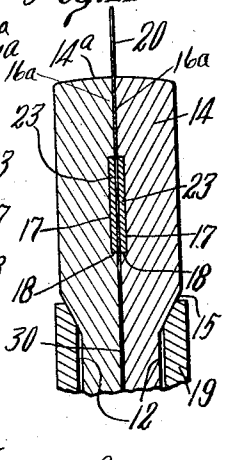


Fig. 11



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UNITED STATES PATENT OFFICE

GORDON C. GREEN, OF HINGHAM, MASSACHUSETTS

SAFETY RAZOR BLADE STROPPER

Application filed September 23, 1931. Serial No. 564,517.

The object of this invention is to provide a blade stropper adapted to be grasped by a hand and be guided by one of the edges of a strop, during the operation of stropping a blade, the stropper being provided with a pair of jaws for clamping a blade so that it cannot be flexed by pressure of its cutting edge against a strop, and with another pair of jaws for clamping a blade adjunct, the two pairs of jaws firmly holding the blade and adjunct in an inclined or oblique position, so that when the stropper is guided by a strop edge, the blade edge to be stropped extends obliquely from the strop edge, a position which is well known to be advantageous.

Of the accompanying drawing forming a part of this specification,—

Figure 1 is a side view of a stropper embodying the invention, parts being shown in section.

Figure 2 shows in perspective and assembled, the rod sections shown by Figure 1.

Figure 3 shows in perspective the sections of the rod separated from each other.

Figure 4 is a perspective view of the tube element of the stropper.

Figure 5 is a perspective view of the nut shown by Figure 1.

Figure 6 is an edge view of the blade adjunct shown by Figure 1.

Figure 7 is a perspective view of said adjunct.

Figure 8 is an enlarged section on line 8—8 of Figure 1.

Figure 9 is a side view and Figure 10 an end view of a blade and a blade adjunct fixed thereon, portions of the stropper being shown by dotted lines in Figure 9.

Figure 11 is an enlarged section on line 11—11 of Figure 1.

Figure 12 is a view similar to Figure 11 showing the gripping jaws when not under gripping pressure.

The same reference characters indicate the same parts in all of the figures.

The stropper comprises two independent oblong rod sections having flat inner sides and semicylindrical outer sides 12. Said sections collectively form a cylindrical rod and have outer end faces 14a.

The flat inner sides are interrupted by oblique slots having bottoms 17 and edges 18. Said slots are located near the outer ends of the sections, so that the flat sides include elongated inner end portions 16, and relatively short blade grasping jaws 16a at the outer ends of the sections. Blade adjunct grasping jaws 17 are formed by the bottoms of said slots and located between the side portions 16 and the blade grasping jaws 16a. The jaws 17 are adapted to grasp either of the two forms of blade adjunct hereinafter described.

The semicylindrical sides of the sections are provided with enlargements 14 at their outer ends collectively forming a head terminating in a conical zone 15. On the inner ends of the semicylindrical sides are formed screw threads 13.

The stropper comprises also a nut 170 engaged with the screw threads 13 to couple the inner ends of the sections together and having a conical zone 180, and a tube 19 surrounding the sections between the zones 15 and 180. The bore of the tube is spaced from the cylindrical sides of the sections between the conical zones by an annular crevice 29, and its ends bear on said conical zones as shown by Figure 1. Said zones are adapted to enter the ends of the tube bore as shown by Figure 1.

When the rod sections are assembled as shown by Figure 2 the slots formed in the head portions of the sections constitute an oblique passage in which a portion of a blade adjunct is insertable.

Said adjunct may be separable from the blade with which it is associated, or may be inseparable therefrom, the adjunct in each case being thicker than the blade so that it may be clamped between the jaws 17.

A separable adjunct is shown by Figures 1, 6, 7 and 8, and is adapted to releasably hold a two edged blade 20, the adjunct being formed to expose one edge of the blade and guard the other edge, and provided with jaw engaging means formed to be clamped between the jaws 17, and locate the blade 20 with one of its cutting edges entirely exposed outside the end face 14a and projecting obliquely therefrom.

The separable adjunct preferably includes two thin sheet metal leaves 21 between which the blade 20 is insertable, said leaves being narrower than the blade, a flexible neck 22 connecting said leaves at one end of the adjunct, and narrow thickened extensions 23 projecting from the opposite ends of the leaves and formed to be interposed between and clamped by the jaws 17, and locate the adjunct so that one edge of the blade is entirely exposed and projects obliquely from the end face 14a, the opposite edge being guarded by the leaves as shown by Figure 8.

One of the leaves 21 is provided with a stud 24 formed to enter an opening in the blade 20 and prevent edgewise displacement of the blade.

The extensions 23 are offset from the blade guarding edges of the leaves 21 so that shoulders 25 abutting the head formed by the enlargements 14 are formed on the leaves, said shoulders limiting the insertion of the adjunct into the space between the jaws 17. The blade grasping jaws 16a are adapted to clamp an end portion of the blade 20 as indicated by Figure 11, and prevent flexure of the blade by pressure of its cutting edge against a strop.

The inseparable blade adjunct 26, (Figures 9 and 10), is the well known thick back fixed to the blade 27 of a so called "Gem" razor, said blade having only one cutting edge. The jaws 17 are adapted to clamp one end portion of the adjunct 26 as indicated by dotted lines in Figure 9 and hold the single cutting edge of the blade 27 entirely exposed outside the end face 14a and in an oblique position relative thereto.

It will be seen that when the nut 170 is rotated forward on the screw threads 13 of the rod sections, the conical zones 180 and 15 are forced simultaneously into the ends of the tube 19, so that equal inward pressure is exerted on the jaw carrying portions of the rod sections, and the clamping jaws 16a and 17 are adapted to simultaneously grasp a portion of the blade and a portion of an adjunct thereof so that a very firm grip is maintained on the inserted blade and adjunct.

The separable adjunct reinforces the blade 20 and prevents flexure and breakage thereof during the stropping operation.

When the nut 170 is rotated backward from the clamping position shown by Figure 1, the jaw carrying portions of the rod sections are separated from each other by a relatively wide crevice 30 (Figure 12), and the jaws 16a and 17 are spaced apart so that the blade and adjunct to be clamped are freely insertable between the jaws. The forward rotation of the nut to the position shown by Figure 1 forces the jaws 16a and 17 simultaneously inward and causes them to firmly grip the interposed blade and adjunct, the width of the crevice 30 being reduced as shown by Figure 11.

In consequence of the simultaneous entrance of the conical zones 15 and 180 into the ends of the tube bore a nut rotation of small amplitude is sufficient to firmly secure the blade and its adjunct to the stropper. The blade may therefore be secured and released by one complete rotation of the nut or less.

The portions of the opposed faces of the rod sections between the oblique jaws 17 and the end face 14a of the head, said portions being designated by 16a in Figure 3, constitute outer gripping jaws adapted to bear on opposite sides of the blade 20 or 27, and cooperate with the oblique jaws in holding the blade.

I claim:

1. A blade stropper comprising two independent oblong rod sections having flat inner sides and semicylindrical outer sides, said sections collectively forming a cylindrical rod, the inner sides being interrupted by oblique slots, so that said flat sides include elongated inner end portions, and relatively short blade grasping jaws at the outer ends of the sections, said sections having blade adjunct grasping jaws formed by the bottoms of said slots and located between the elongated side portions and the blade grasping jaws, the semicylindrical sides having enlargements at their outer ends collectively forming a head terminating in a conical zone, and screw threads on their inner ends, the stropper comprising also a nut engaged with said screw threads and coupling the sections together at their inner ends, said nut having a conical zone, and a tube surrounding the sections between said head and nut, the bore of the tube being spaced from the cylindrical sides of the sections, so that the outer end portions of the sections are movable toward and from each other, the tube ends bearing on said conical zones, the arrangement being such that a nut rotation of small amplitude forces said conical zones simultaneously into the ends of the tube and causes equal inward pressure on the jaw carrying portions of the sections, so that the blade and adjunct grasping jaws are adapted to simultaneously grasp a blade and a blade adjunct.

2. A blade stropper as specified by claim 1 comprising a blade adjunct including two thin sheet metal leaves between which a two edged blade is insertable, said leaves being narrower than the blade, a flexible neck connecting said leaves at one end of the adjunct, and narrow extensions projecting from the opposite ends of the leaves and formed to be clamped between said adjunct grasping jaws, and locate the adjunct so that one edge of a blade inserted between the leaves is entirely exposed outside said end face, and

projects obliquely therefrom, the opposite blade edge being guarded by the leaves, one of the leaves being provided with a stud formed to enter a blade opening and prevent edgewise displacement of an inserted blade, said extensions being offset from the blade guarding edges of the leaves so that shoulders are formed on the leaves abutting the head portion of said rod, and limiting the insertion of said extensions between the jaws.

In testimony whereof I have affixed my signature.

GORDON C. GREEN.