D. W. GAGE.

RAZOR BLADE HOLDER.

APPLICATION FILED JUNE 23, 1908.

917,043. Patented Apr. 6, 1909.

Fig. 1

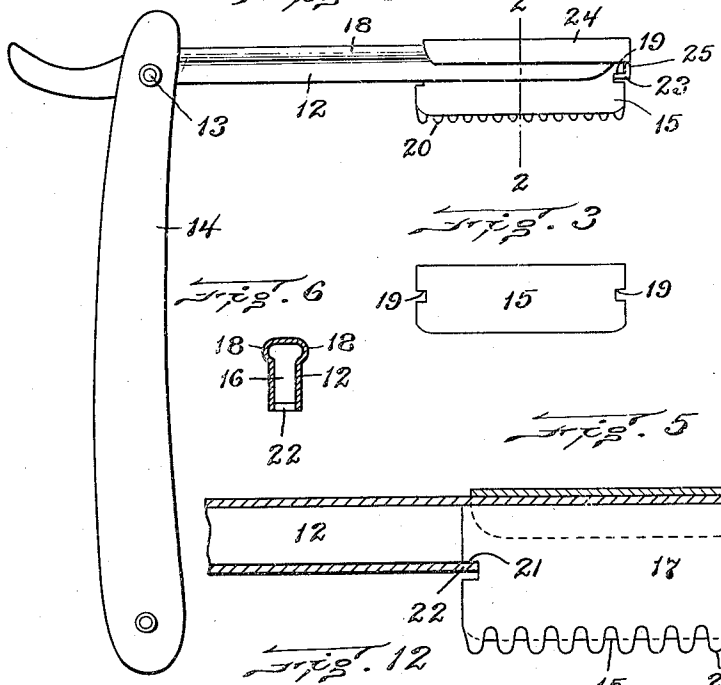


Fig. 2

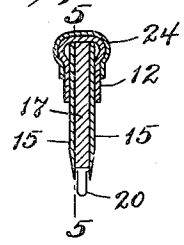


Fig. 3

Fig. 6

Fig. 4

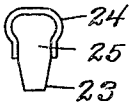


Fig. 5

Fig. 12

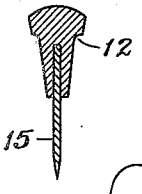


Fig. 11

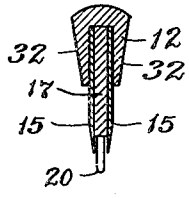


Fig. 7

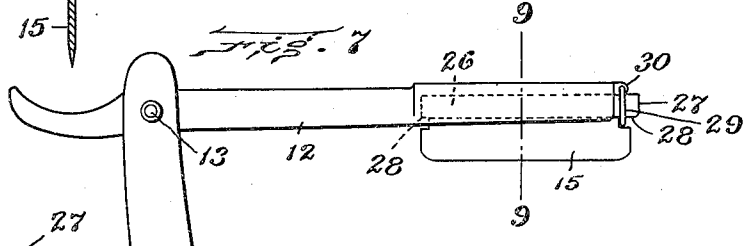


Fig. 10

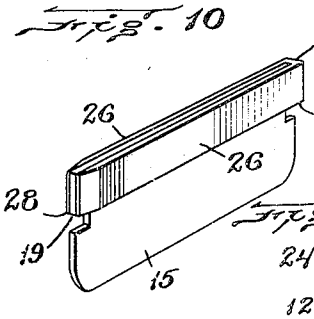


Fig. 13

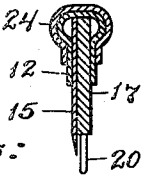


Fig. 8

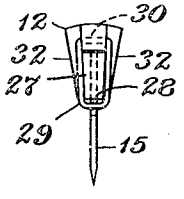
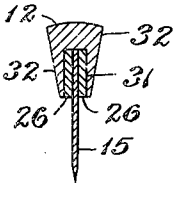


Fig. 9



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UNITED STATES PATENT OFFICE.

DANIEL W. GAGE, OF CAMBRIDGE, MASSACHUSETTS.

RAZOR-BLADE HOLDER.

No. 917,043. Specification of Letters Patent. Patented April 6, 1909.

Application filed June 23, 1908. Serial No. 439,946.

To all whom it may concern:

Be it known that I, DANIEL W. GAGE, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Razor-Blade Holders, of which the following is a specification.

This invention relates particularly to razors of the so-called safety type, and embodying a blade-holding arm having a longitudinal socket which is open at the outer end of the arm, and is adapted to receive one or more flat razor blades; and detents located at opposite ends of said socket and adapted to detachably engage shoulders formed on the end portions of the said blade or blades, a shouldered filling piece being employed adapted to be inserted with the blade in the socket, and to be engaged by the said detent, the blade being separable from the filling piece as well as from the carrying arm, so that different blades may be interchangeably used with the same carrying arm and filling piece.

The invention consists in the several improvements which I will now proceed to describe and claim.

Of the accompanying drawings forming a part of this specification, Figure 1 represents a side elevation of a safety razor embodying my invention. Fig. 2 represents a section on line 2—2 of Fig. 1. Fig. 3 represents a side elevation of one of the blades shown in Figs. 1 and 2. Fig. 4 represents an end view of the movable detent and its supporting sheath shown in Figs. 1 and 2. Fig. 5 represents a section on line 5—5 of Fig. 2. Fig. 6 represents a transverse section of the blade-carrying arm shown in Figs. 1, 2 and 5. Fig. 7 represents a side elevation showing a different embodiment of my invention adapted for use in honing or stropping a detachable razor blade. Fig. 8 represents an end elevation of the blade and holder shown in Fig. 7. Fig. 9 represents a section on line 9—9 of Fig. 7. Fig. 10 represents a perspective view of the blade and filling piece shown in Figs. 7 and 8. Figs. 11 and 12 represent sectional views of modifications. Fig. 13 represents a sectional view of another modification.

The same numerals of reference indicate the same parts in all the drawings.

Referring to Figs. 1, 2, 3, 4, 5 and 6, 12 represents a blade carrying arm which is preferably pivoted at 13 to a handle 14, which may be composed of two side pieces separated by a space adapted to receive the cutting edge of the razor blades 15, which are detachably secured to the arm 12, as hereinafter described. The arm 12 is preferably formed by bending a suitable sheet metal blank into the form shown in cross-section in Fig. 6, the arm thus formed being hollow and the interior of its outer end portion being open at the inner edge of the arm to form a socket 16, which is open at the inner edge, and at the outer end of the arm, and is adapted to receive a pair of blades 15, and an interposed filling piece 17, the width of the socket 16 being such that it is entirely occupied by said blades and filling piece, as shown in Fig. 2. The back of the arm 12 is provided with protuberances 18 which give the arm a thickened outer edge or back, the purpose of which is hereinafter described. Each blade 15 is preferably formed as shown in Fig. 3, the blade being of substantially rectangular form, and provided at its outer end portions with shoulders 19 adapted to engage the detents hereinafter described on the arm, said shoulders being preferably formed by notches cut in the ends of the blade. The filling piece 17, in this embodiment of my invention, is provided with comb teeth or projections 20 which project below the cutting edges of the blades 15, the filling piece 17 being interposed between the blades so that its projections 20 constitute a guard or safety device to limit the depth of cut of the blades. The end portions of the filling piece 17 are provided with detent-engaging shoulders 21 which coincide with the shoulders 19 of the blades, and are preferably formed by cutting notches in the end portions of the filling piece. 22 represents a detent affixed to the arm 12, and located at the inner end of the socket 16 in position to engage the shoulders 19 and 21 at the inner ends of the blades and filling piece, said detent being preferably formed integral with the arm 12. 23 represents a movable detent adapted to be moved toward and from the detent 22, and to engage the shoulders 19 and 21 at the outer ends of the blades and filling piece. In this embodiment of my invention, the detent 23 is affixed to a sheet metal sheath 24, which is formed to embrace the thickened back of the arm 12, as shown in Figs. 1, 2 and 5, the sheath having a frictional engagement with the back, which is sufficient to hold the detent 23 in its operative position. The de-

tent 23 is preferably formed on an end piece 25, which may be brazed, soldered, or otherwise affixed to the outer end of the sheath 24.

When the parts are assembled, as shown in Figs. 1, 2 and 5, the blades and filling piece are securely confined in the socket by the detents 22 and 23. Said blades and filling piece may be released and removed from the arm by moving the detent 23 outwardly, the sheath 24 being free to slide lengthwise upon the arm 12. The blades may, therefore, be quickly and conveniently removed and replaced, or new blades substituted for those that have become worn.

In the embodiment of my invention shown in Figs. 7, 8, 9 and 10, I employ one blade 15, instead of two, the filling piece being composed of two side parts or members 26 united by a neck 27, said filling piece being adapted to be frictionally engaged with the back or inner portion of the blade, the arms 26 being adapted to spring inwardly and hug the sides of the blade. The end portions of the said filling piece form shoulders 28 which coincide with the shoulders 21 of the blade, and are adapted to engage the detents on the arm 12. In this case, the inner detent 22 is or may be formed and arranged, as shown in Fig. 5, as a part of the arm. The outer detent is here shown as a loop or elongated eye 29, one end portion of which is mounted to swing in a socket 30 formed at the outer end of the arm 12, the other end portion being adapted to swing under the shoulders 21 and 28 of the blade and filling piece, as shown in Figs. 7 and 8. In this embodiment of the invention, the blade may be used without a guard, as in the ordinary or non-safety razor.

The socket which receives the blade and filling piece is indicated in Fig. 9 by the reference numeral 31, the aggregate thickness of the blade 15 and filling piece being sufficient to fill the socket. In this embodiment of the invention I have shown the socket-containing portion of the arm provided with oppositely inclined sides 32 which are so formed as to permit the application of the blade to a hone or a strop for the purpose of sharpening the cutting edge.

The arm constructed as shown in Figs. 7, 8 and 9 may be used to hold two blades 15, and the intermediate comb or guard plate 17, as shown in Fig. 11. If desired, however, the socket of the arm 12 may be reduced in width so that it will receive only a blade 15, as shown in Fig. 12, the blade being detachably secured by the detents on the arm, as already described.

It is obvious that the construction shown in Figs. 1, 2 4 and 5 may be modified so that the socket will hold a single blade 15, beside the plate 17, as shown in Fig. 13.

I claim:

1. A razor blade holder comprising an arm having a longitudinal blade-receiving socket which is open at the outer end of the arm, and detents located at opposite ends of said socket, and adapted to detachably engage shoulders formed in the ends of a razor blade inserted in the socket and hold the blades against vertical and endwise movement, one of said detents being slidable on the arm toward and from the other.

2. A razor blade holder comprising an arm having a longitudinal blade-receiving socket which is open at the outer end of the arm, and detents located at opposite ends of said socket, and adapted to detachably engage shoulders formed on the ends of a razor blade inserted in the socket and hold the blade against vertical or endwise movement, one of said detents being slidable on the arm toward and from the other, and provided with a securing member slidable upon and adapted to detachably engage the arm.

3. A razor blade holder comprising an arm having a longitudinal blade-receiving socket which is open at the outer end of the arm, and detents located at opposite ends of said socket, and adapted to detachably engage shoulders formed on the ends of a razor blade inserted in the socket and hold the blade against vertical and endwise movement, one of said detents being movable on the arm toward and from the other, and provided with a sheath slidable endwise upon and adapted to frictionally engage the arm.

4. A razor blade holder comprising an arm having a thickened back and a longitudinal blade-receiving socket which is open at the outer end of the arm, a fixed detent at the inner end of said socket, a clamping sheath adapted to frictionally engage the thickened back and to slide endwise thereon, a detent carried by said sheath, and movable therewith toward and from the fixed detent, said detents being adapted to engage shoulders on the ends of a razor blade inserted in said socket and hold the blade against vertical and endwise movement.

5. In combination, a razor blade holder comprising an arm having a socket, a razor blade having a shouldered notch in each end and inserted in the socket, a filling piece having a shouldered notch in each end and inserted with the blade in said socket, a fixed detent carried by the arm, and a detent slidable upon the arm, said detents being adapted to simultaneously engage the shoulders in the ends of the blade and filling piece.

6. In combination, a razor blade holder comprising an arm having a socket, a razor blade having a shouldered notch in each end and a filling piece having a shouldered notch in each end and inserted side by side in said socket, said filling piece being formed as a guard for the edge of the blade, and a fixed detent carried by the arm and a detent slidable on the arm and adapted to simultane-

ously engage the shouldered notches of the blade and filling piece.

7. In combination, a razor blade holder comprising an arm having a socket, a pair of shouldered razor blades and an intermediate shouldered filling piece inserted in the socket, said filling piece being formed as a guard for the edges of the blades, and detents carried by the arm, and adapted to simultaneously engage the shoulders of the blades and filling piece.

In testimony whereof I have affixed my signature, in presence of two witnesses.

DANIEL W. GAGE.

Witnesses:
C. F. BROWN,
P. W. PEZZETTI.