

June 5, 1962

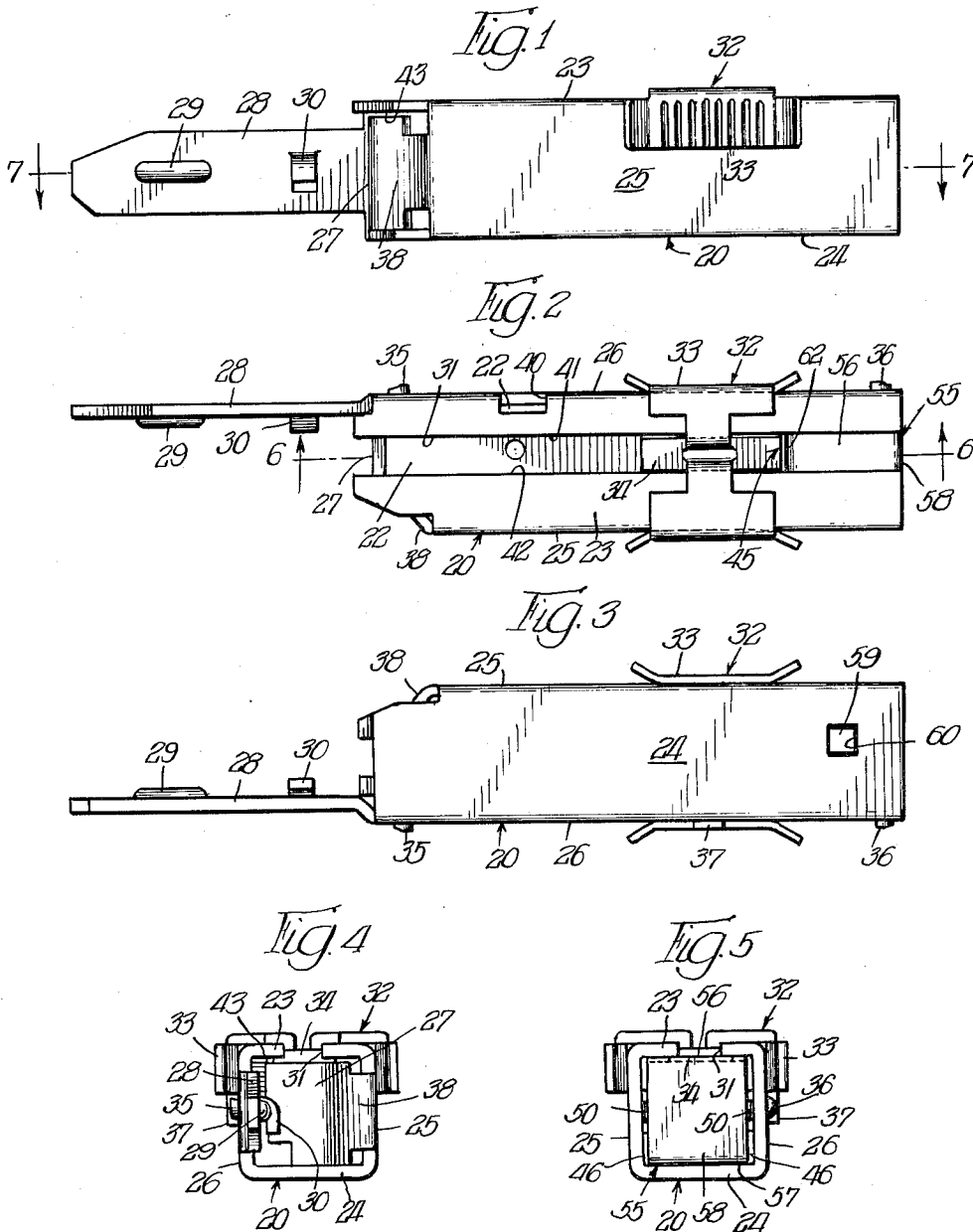
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3,037,664

SAFETY RAZOR BLADE DISPENSER

Filed Dec. 15, 1959

2 Sheets-Sheet 1



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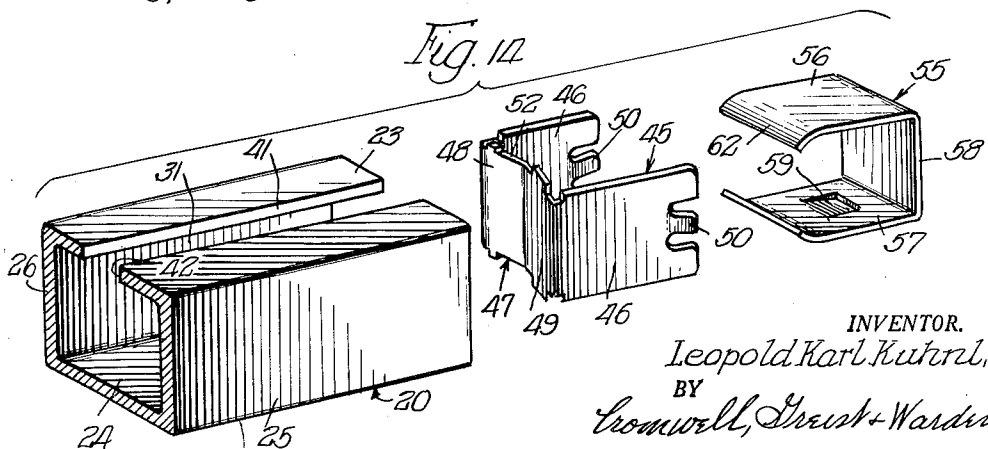
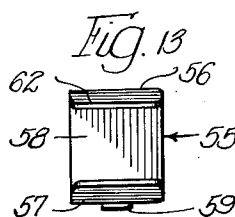
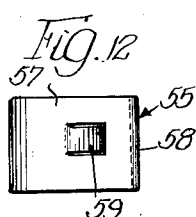
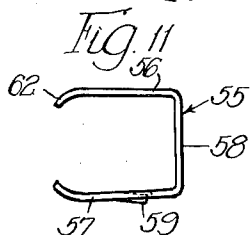
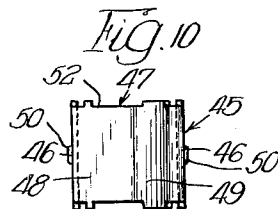
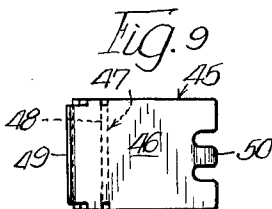
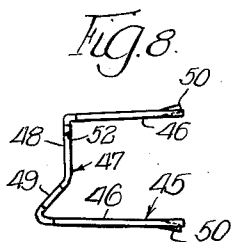
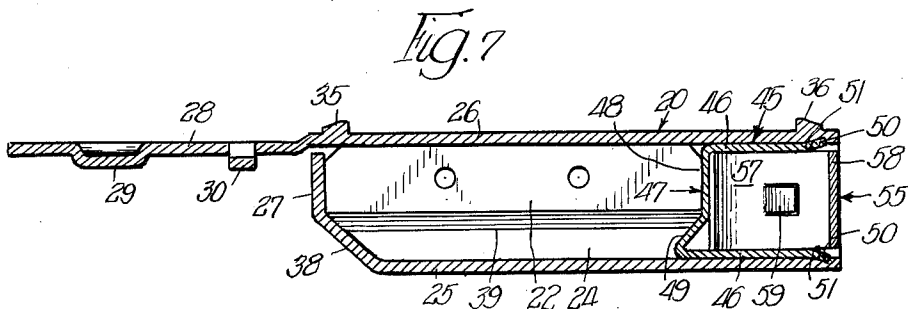
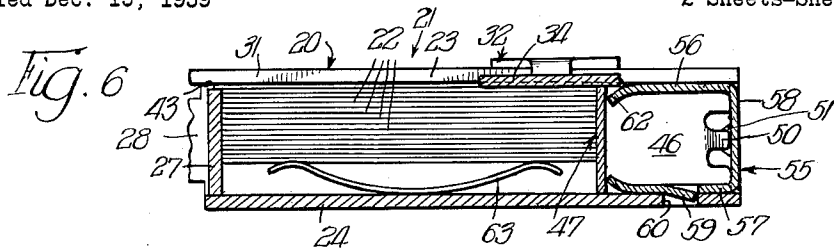
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SAFETY RAZOR BLADE DISPENSER

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2 Sheets-Sheet 2



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3,037,664

SAFETY RAZOR BLADE DISPENSER

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6 Claims. (Cl. 221-232)

This invention has to do with safety razor blade dispensers of the type in which the uppermost blade in a stack of new blades in the dispenser is adapted to be pushed endwise into shaving position in the head of an associated safety razor.

The purpose of the invention is to provide an improved dispenser of the type described.

While the foregoing statements are indicative in a general way of the nature of the invention other more specific objects and advantages will be apparent to those skilled in the art upon a full understanding of the construction, arrangement and function of the several parts which have been combined to form the dispenser.

A preferred embodiment of the invention is presented herein but it will of course be appreciated that the invention is susceptible of incorporation in other forms coming equally within the scope of the appended claims.

In the accompanying drawings:

FIG. 1 is a side view of the dispenser assembly with the blade-pushing member in an intermediate or not fully retracted position;

FIG. 2 is a top view of the same;

FIG. 3 is a bottom view of the same;

FIG. 4 is a front end view of the same;

FIG. 5 is a rear end view of the same;

FIG. 6 is a section taken generally on the line 6-6 of FIG. 2;

FIG. 7 is a section taken generally on the line 7-7 of FIG. 1;

FIG. 8 is a top plan view of the backstop;

FIG. 9 is a side view of the same;

FIG. 10 is a front end view of the same;

FIG. 11 is a side view of the plug;

FIG. 12 is a bottom plan view of the same;

FIG. 13 is a front end view of the same; and

FIG. 14 is an exploded view, on enlarged scale, of the rear end portion of the housing, the backstop, and the plug prior to assembly thereof.

The new safety razor blade dispenser is adapted for use with a safety razor of the general type shown for example in Rodrigues Patent No. 1,969,945.

The dispenser includes a housing 20 in the upper portion of which a stack 21 of new blades 22 is positioned. The housing 20 is horizontally elongated and is of generally rectangular cross-section. It is characterized by a top wall 23 against the underside of which the uppermost blade 22 in the stack of blades is positioned, a bottom wall 24, a near side wall 25, a far side wall 26, and a front end wall 27. The rear end of the housing is open.

The housing 20 is provided, at the front end of the far side wall 26, with a forwardly projecting finger 28. The finger 28, when the dispenser is to be used to insert a new blade into the head of an associated razor (not shown), is forced endwise into an opening in the resiliently expandible head of the razor, into a position between the cap and seat portions of the head, where small cams 29 and 30 on the finger 28 act to wedge apart the cap and seat portions of the head to both release the clamping pressure on the used blade in the head and facilitate the insertion of the new blade.

The top wall 23 of the housing is provided with a longitudinally extending open-ended slot 31 in and along which a blade-pushing member 32 is adapted to reciprocate.

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The member 32 is provided exteriorly of the housing 20 with a finger-grip portion 33 of generally U-shaped cross-section which slidably embraces the top wall 23 and the upper portions of the near and far side walls 25 and 26, and the member 32 is provided interiorly of the housing with a thin flat plate portion 34 for endwise abutment with the rear end of the uppermost blade 22 in the housing. The stroke of the member 32 is limited by small outwardly pressed projections 35 and 36 on the far wall 26 adjacent the front and rear ends of the latter, which projections are engaged by a small downwardly extending portion 37 of the finger-grip portion 33 when the member 32 reaches its fully advanced and fully retracted positions.

The front end wall 27 of the housing 20 is provided with an angularly disposed portion 38 where it joins with the front end of the near side wall 25, which angularly disposed portion interfits with the front beveled corners of the sharp edges 39 of the blades 22 and positions all of the blades in the stack 21 against the far side wall 26 in spaced relation to the near side wall 25. An aperture 40 is formed in the upper edge of the far side wall 26 to permit a visual indication of the number of blades 22 in the dispenser.

The housing 20 may be advantageously constructed as a one-piece sheet metal stamping, with the front end wall 27 of the housing formed by flanging the front end of the near side wall 25 toward the far side wall 26, and with the longitudinally extending slot 31 in the top wall formed by spacing apart the confronting edges 41 and 42 of the stamping, but it will of course be appreciated that the housing may be made in other ways and also of other materials. The upper edge of the front end wall 27 of the housing 20 is spaced a short distance beneath the top wall 23 to provide an exit slot 43 with which the forward end of the uppermost blade 22 only is aligned whereby that blade only may be ejected from the dispenser through the slot 43.

Associated with the open rear end of the housing 20 is a separate sheet metal backstop 45. The backstop 45 is of generally U-shaped rearwardly opening form and is characterized by two laterally spaced slightly diverging arms or side flanges 46 and a front cross web 47, the latter having a straight portion 48 and an angularly disposed portion 49. In the assembled condition of the dispenser the angularly disposed portion 49 of the cross web 47 of the backstop 45 interfits with and positions the rear beveled corners of the sharp edges 39 of the blades 22 in the stack 21. The rear end of each of the side flanges 46 of the backstop 45 is provided with an outwardly sprung tongue 50, which tongues, during assembly of the dispenser, spring outwardly into locked association with small recesses or notches 51 provided in the near and far side walls 25 and 26 of the housing 20, as best illustrated in FIG. 7. The upper edge of the cross-web 47 of the backstop 45 is provided with a shallow groove 52 to accommodate the plate portion 34 of the blade-pushing member 32 in the fully retracted position of the latter.

Of particular interest is the provision of a separate, sheet metal plug 55 which serves both as a closure for the open rear end of the housing 20 and as an aid in retaining the backstop 45 in engagement with the rear end of the stack 21 of blades 22. As will be fully explained hereinafter, the plug 55 also serves to insure that the flat plate portion 34 of the blade-pushing member 32 ejects the uppermost blade only from the dispenser upon forward movement thereof. The plug 55 is of generally U-shaped forwardly open form and is characterized by two vertically spaced slightly diverging arms or flanges 56 and 57 and a rear cross-web 58.

In the assembled condition of the dispenser with the

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blade-pushing member 32 positioned forwardly of the backstop 45, the upper arm or flange 56 of the plug 55 is in resiliently yieldable engagement with the underside of the top wall 23 of the housing 20 and the lower arm or flange 57 is biased against the bottom wall 24 of the housing with the rear cross web 58 being positioned substantially flush with the rear end of the housing to provide a closure therefor. The plug 55 is secured in the rear end of the dispenser within the spaced arms 46 of the backstop 45 by a downwardly bent tongue 59, which may be punched out of the lower arm 57 of the plug, which springs downwardly, during assembly of the dispenser, into locked association with an aperture 60 formed in the bottom wall 24 of the housing 20. The plug 55 thus serves to retain the backstop 45 in engagement with the rear end of the stack 21 of the blades 22 by holding the laterally spaced arms 46 thereof apart to retain the tongues 50 in interlocking engagement in the recesses 51 and through engagement of the forward ends of the upper and lower arms 56 and 57 of the plug with the straight portion 48 of the cross web 47 of the backstop 45.

The forward end of the upper arm 56 of the plug 55, which arm is normally biased flush against the underside of the top wall 23 of the housing 20, is curved downwardly somewhat, as at 62. When the blade-pushing member 32 is moved rearwardly into its fully retracted position overlying the plug 55, the rear end of the flat plate portion 34 thereof engages the curved forward end 62 of the arm 56 and cams it downwardly with the flat plate portion 34 itself being cammed or resiliently urged upwardly flush against the underside of the top wall 23 of the housing 20 by the upper arm 56 of the plug 55. This structural arrangement provides that upon forward movement of the blade-pushing member 32 the flat plate portion 34, being resiliently held flush against the underside of the top wall 23 of the housing 20, will abut against the rear end of the uppermost blade 22 only to eject the blade from the dispenser. This feature is of particular importance when extremely thin safety razor blades which are now commercially available are utilized in dispensers of the type described herein. If means are not provided for resiliently holding the flat plate portion 34 of the pushing member 32 flush against the underside of the top wall 23 of the housing 20 when in its fully retracted position, any sloppiness in the fit of the pushing member 32 in the slotted top wall 23 of the housing might well result in the flat plate portion 34, upon forward movement of the pushing member, engaging the rear end of a blade beneath the uppermost blade. The dispenser would thus be rendered inoperable inasmuch as that blade is not aligned at its front end with the blade exit slot 43.

In assembling the several parts of the improved dispenser, the stack 21 of new blades 22 is positioned on the lower wall 24 of the housing 20 on an interposed leaf spring 63, which spring acts to press the blades upwardly. The backstop 45 is then inserted into the open rear end of the housing 20 until the cross web 47 thereof abuts against the rear end of the stack 21 of blades 22 whereby the tongues 50 of the backstop 45 spring outwardly into locked association with the recesses 51 provided in the side walls 25 and 26 of the housing 20. The plug 55 is then inserted into the open rear end of the housing 20 between the laterally spaced arms 46 of the backstop 45 until the tongue 59 associated with the lower arm 57 thereof springs downwardly into locked association with the aperture 60 provided in the bottom wall 24 of the housing 20.

I claim:

1. In a safety razor blade dispenser of the type in which the uppermost blade in a stack of new blades is adapted to be pushed endwise into shaving position in the head of an associated razor, a horizontally elongated housing of generally rectangular cross-section in which the stack of new blades is adapted to be positioned, a spring supported on the bottom of the housing beneath the stack for push-

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ing the stack upwardly against the top wall of the housing, a blade-pushing member slidable forwardly and rearwardly in a longitudinal slot formed in the top wall of the housing and having a thin flat plate portion disposed within the housing for endwise abutment with the rear end of the uppermost blade in the stack, and means in the rear end of the housing in resiliently yieldable engagement with the underside of the top wall of the housing, said resiliently yieldable means being adapted to be forced downwardly by the rear edge of said flat plate portion of said pushing member as the latter is moved into its rearwardmost position in which it overlies said resiliently yieldable means whereby said flat plate portion is retained by said resiliently yieldable means flush against the underside of the top wall of the housing while in its rearwardmost position.

2. In a safety razor blade dispenser of the type in which the uppermost blade in a stack of new blades is adapted to be pushed endwise into shaving position in the head of an associated razor, a horizontally elongated housing of generally rectangular cross-section in which the stack of new blades is adapted to be positioned, said housing being open at its rear end, a spring supported on the bottom of the housing beneath the stack for pushing the stack upwardly against the top wall of the housing, a blade-pushing member slidable forwardly and rearwardly in a longitudinal slot formed in the top wall of the housing and having a thin flat plate portion disposed within the housing for endwise abutment with the rear end of the uppermost blade in the stack, and a separate plug secured in the rear end of the housing and being characterized by an upper portion which is curved downwardly at its forward end and which is in resiliently yieldable engagement with the underside of the top wall of the housing whereby said upper portion is cammed downwardly by the rear edge of said flat plate portion of said blade-pushing member as it is moved into its rearwardmost position in which it overlies said plug, said flat plate portion of said pushing member being retained against the underside of the top wall of the housing by said downwardly cammed upper portion of said plug so that only the uppermost blade in the stack will be engaged by the front edge of said flat plate portion upon forward movement of said blade-pushing member.

3. In a safety razor blade dispenser of the type in which the uppermost blade in a stack of new blades is adapted to be pushed endwise into shaving position in the head of an associated razor, a horizontally elongated housing of generally rectangular cross-section in which the stack of new blades is adapted to be positioned, said housing being open at its rear end, a spring supported on the bottom of the housing beneath the stack for pushing the stack upwardly against the top wall of the housing, a blade-pushing member slidable forwardly and rearwardly in a longitudinal slot formed in the top wall of the housing and having a thin flat plate portion disposed within the housing for endwise abutment with the rear end of the uppermost blade in the stack, a generally U-shaped rearwardly opening backstop in the rear end of the housing which engages and positions the rear ends of the blades in the stack, said backstop being positioned in the housing with free rearwardly extending laterally spaced arms thereof being sprung away from each other into engagement with rear portions of the side walls of the housing, a separate generally U-shaped forwardly opening plug positioned within the backstop with free forwardly extending vertically spaced arms thereof being sprung away from each other into resiliently yieldable engagement with rear portions of the top and bottom walls of the housing, and a downwardly projecting tongue on the lower arm of said plug interlocked in an aperture provided in the bottom wall of the housing whereby the backstop is retained in engagement with the stack of new blades, the forward end of the upper arm of said plug being curved downwardly somewhat whereby said upper arm is adapted to be cammed down-

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wardly by the rear edge of said flat plate portion of said blade-pushing member as it is moved into its rearwardmost position in which it overlies said plug, said flat plate portion of said pushing member being retained against the underside of the top wall of the housing by said downwardly cammed upper arm of said plug so that only the uppermost blade in the stack will be engaged by the front edge of said flat plate portion upon forward movement of said blade-pushing member to eject a new blade from the dispenser.

4. In a safety razor blade dispenser of the type in which the uppermost blade in a stack of new blades is adapted to be pushed endwise into shaving position in the head of an associated razor, a horizontally elongated housing of generally rectangular cross-section in which the stack of new blades is adapted to be positioned, said housing being open at its rear end, a spring supported on the bottom of the housing beneath the stack for pushing the stack upwardly against the top wall of the housing, a generally U-shaped rearwardly opening backstop in the rear end of the housing which engages and positions the rear ends of the blades in the stack, which backstop is provided with free rearwardly extending laterally spaced arm portions which are sprung away from each other laterally into engagement with the side walls of said housing, and a separate generally U-shaped forwardly opening plug positioned within the backstop and interlocked in the rear end of the housing, which plug is provided with free forwardly extending horizontally disposed vertically spaced arm portions having side edges which engage the inner surfaces of said spaced arm portions of said backstop whereby to retain said spaced arm portions of said backstop in engagement with the side walls of said housing.

5. In a safety razor blade dispenser of the type in which the uppermost blade in a stack of new blades is adapted to be pushed endwise into shaving position in the head of an associated razor, a horizontally elongated housing of generally rectangular cross-section in which the stack of new blades is adapted to be positioned, said housing being open at its rear end, a spring supported on the bottom of the housing beneath the stack for pushing the stack upwardly against the top wall of the housing, a generally U-shaped rearwardly opening backstop in the rear end of the housing which engages and positions the rear ends of the blades in the stack, which backstop is provided with free rearwardly extending laterally spaced arm portions which are sprung away from each other laterally into engagement with the side walls of said housing, a separate generally U-shaped forwardly opening plug positioned within the backstop, which plug is provided with free forwardly

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wardly extending arm portions which are sprung open away from each other and are disposed at right angles to the spaced arm portions of said backstop with their side edges in engagement with the inner surfaces of said backstop arm portions whereby to retain said spaced arm portions of said backstop in engagement with the side walls of said housing, and means interlocking said plug in the rear end of said housing whereby said plug serves to retain the backstop in engagement with the stack of new blades.

6. In a safety razor blade dispenser of the type in which the uppermost blade in a stack of new blades is adapted to be pushed endwise into shaving position in the head of an associated razor, a horizontally elongated housing of generally rectangular cross-section in which the stack of new blades is adapted to be positioned, said housing being open at its rear end, a spring supported on the bottom of the housing beneath the stack for pushing the stack upwardly against the top wall of the housing, a generally U-shaped rearwardly opening backstop in the rear end of the housing which engages and positions the rear ends of the blades in the stack, which backstop is provided with free rearwardly extending vertically disposed laterally spaced arm portions each of which is provided with a tongue at the rear edge thereof, said backstop arm portions being sprung away from each other whereby said tongues thereon are engaged in recesses provided in the side walls of said housing, a separate generally U-shaped forwardly opening plug positioned within the backstop, which plug is provided with free forwardly extending horizontally disposed vertically spaced arm portions having side edges in engagement with the inner surfaces of said spaced arm portions of said backstop whereby to retain said tongues thereon in said recesses formed in the side walls of said housing, said plug arm portions being sprung away from each other vertically into engagement with rear portions of the top and bottom walls of the housing, and a downwardly projecting tongue on the lower arm portion of said plug interlocked in an aperture provided in the bottom wall of the housing whereby the backstop is retained in engagement with the stack of new blades by said interlocked plug.

References Cited in the file of this patent

UNITED STATES PATENTS

2,202,468	Rodriques	May 28, 1940
2,215,008	Kuhn	Sept. 17, 1940
2,355,181	Reyburn	Aug. 8, 1944
2,671,961	Nelson	Mar. 16, 1954
2,812,576	Kuhn	Nov. 12, 1957