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D. M. BUDZINSKI ET AL

3,377,644

DOCTOR BLADES HAVING SPRING BUTTONS

Filed Dec. 6, 1965

FIG. 1

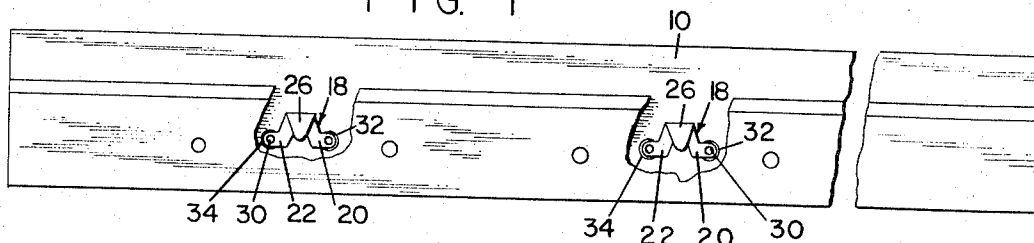


FIG. 2

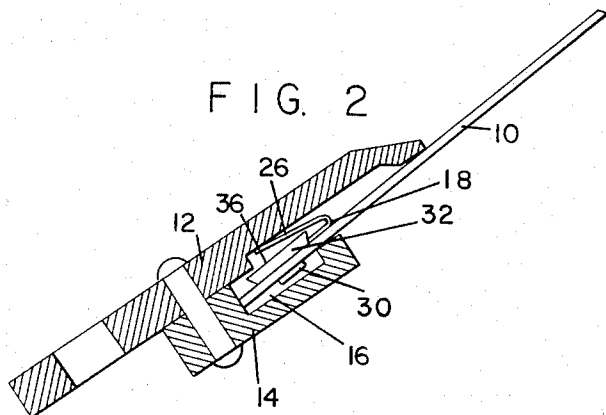


FIG. 5

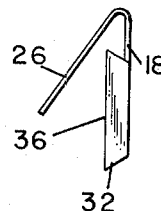


FIG. 4

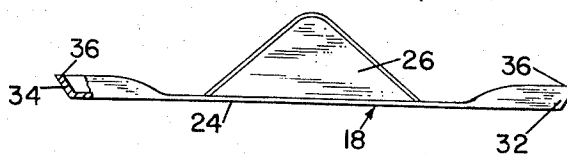
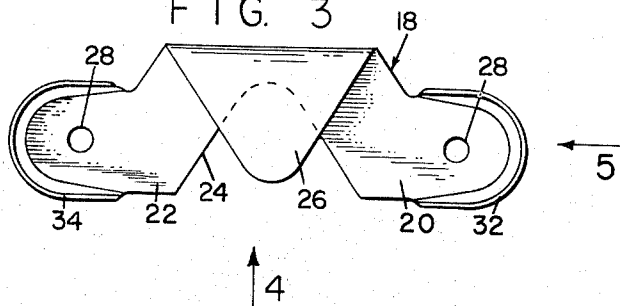


FIG. 3



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**DOCTOR BLADES HAVING SPRING BUTTONS**  
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## ABSTRACT OF THE DISCLOSURE

A doctor blade having spring buttons attached thereto in mutually spaced relation along the length thereof, wherein each spring button comprises a flat member riveted or welded to the blade at a side surface thereof and each spring button comprising a generally flat main body portion and a reversely extending free-ended spring portion extending at an angle thereto, together with raised rigid edge portions on the flat main body portion, the resilient member maintaining the blade in position in its holder and the raised edge portions being effective to clean out fuzz and lint from the blade holder upon a slight longitudinal motion of the blade holder.

This invention relates to a new and improved doctor blade having spring buttons applied thereto for holding the blade securely in the blade holder regardless of the doctor orientation. Although the blade is held securely, it has a certain limited motion in a predetermined direction only with respect to the holder.

The invention contemplates the provision of a series of one-piece pressed metal parts arranged along the length of the blade and secured thereto e.g. by rivets or the like, said pressed metal parts including a spring portion and a pair of cup portions, said cup portions having inclined side walls for providing a scraping and cleaning action with respect to the holder, as well as insuring against the insertion of the blade in the holder in an upside down relation with respect thereto.

Other objects of the invention reside in the fact that the present spring buttons are faster and less expensive to make than anything in the prior art and include the additional function of providing for a scraping and cleaning action of the groove in the blade holder as well as providing for the normal spring function, etc.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which:

FIG. 1 is a plan view illustrating a blade in a holder with parts broken away to show the new spring buttons;

FIG. 2 is an enlarged transverse section therethrough;

FIG. 3 is a plan view on an enlarged scale showing a single spring button;

FIG. 4 is a view in edge elevation thereof looking in the direction of arrow 4 in FIG. 3, and

FIG. 5 is an end elevation thereof looking in the direction of arrow 5 in FIG. 3.

The doctor blade in this case has an elongated flat main body portion which is substantially conventional and is indicated at 10. It is held in a blade holder comprising the two usual parts as at 12 and 14. It is to be understood that these blade holders may be of many different constructions but in general they are provided with a groove 16, see FIG. 2, in which the rear edge portion of the blade 10 is held with the operative edge of the blade extending well out beyond the free edge of the top portion of the holder.

In the present case the blade 10 is provided at spaced

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longitudinal intervals with the novel spring buttons forming the present invention. These are best shown in FIGS. 3, 4 and 5 and each is a one-piece pressed metal element which is indicated at 18.

5 This element is originally punched flat and includes a pair of similar but reversed leg portions 20 and 22 extending in opposite directions separated by a void 24 which in turn can be formed by the spring tongue 26 of the next button.

10 This spring tongue 26 extends upwardly away from the leg portions 20 and 22 and is bent over as indicated in FIG. 5 to form the springy tongue desired.

The leg portions 20 and 22 may be provided with holes as at 28, 28 for the reception of rivets or the like 30 to 15 secure the spring buttons to the blade adjacent the rear edge thereof as shown in FIG. 2.

The edges of the leg portions 20 and 22 are preferably rounded although this is not necessary, and the edge portions thereof as at 32 and 34 are bent upwardly on an 20 angle, see particularly FIGS. 4 and 5, forming a bowed or cup-shaped member having rounded inclined edges as shown. These provide edges for cleaning out the grooves 16 in the blade holder when the blade 10 with the spring buttons attached is moved in a lengthwise manner 25 therein. The top edge at 36 also acts in this manner but by having the rim portions 32 and 34 turned up at an angle, a better scraping action is achieved.

In the holder as shown in FIG. 2, the blade has a spring resisted pivot action so that it can move slightly in a 30 clockwise direction, which is advantageous in many doctoring operations because the blade is held securely in the holder regardless of the doctor orientation with respect to it or to the roll being doctored. It will also be seen that with the buttons of the present invention, the 35 blade cannot be inserted upside down because the buttons are too large to fit within the groove 16 with the blade inverted.

Being simple pressed metal members, the new spring buttons are extremely easy and inexpensive to manufacture and are quickly and easily attached to the blade 40 in the spaced relationship as indicated in FIG. 1.

Having thus described our invention and the advantages thereof, we do not wish to be limited to the details herein disclosed, otherwise than as set forth in 45 the claims, but what we claim is:

1. A doctor blade comprising an elongated member having an operative edge and a rear edge portion, a spring button attached to said doctor blade at a side surface thereof adjacent the rear edge portion, said spring button comprising a member including a generally flat main body portion secured to said blade and a free-ended reversely extending portion which is resilient and extends in general away from said blade and the flat main body portion, and at least one substantially rigid upstanding edge portion on the main body portion, said edge portion extending away from said blade.

2. The doctor blade of claim 1 wherein said upstanding rigid edge portion is located at an angle with respect to the main body portion of said spring button and presents an inclined scraping edge.

3. The doctor blade of claim 1 including an additional and oppositely directed upturned rigid edge portion on said spring button.

4. The doctor blade of claim 1 wherein said upturned edge portion is on curved lines.

5. The doctor blade of claim 1 including an additional and oppositely directed upturned rigid edge portion on said spring button, said edge portions being curved and forming concavities facing each other.

6. The doctor blade of claim 1 including an additional and oppositely directed upturned rigid edge portion on

said spring button, there being one such upturned edge portion at either side of said resilient portion.

7. The doctor blade of claim 1 including an additional and oppositely directed upturned rigid edge portion on said spring button, there being one such upturned edge portion at either side of said resilient portion, said main body portion, said resilient portion, and said two upturned edge portions all being integral. 5

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