Aug. 15, 1961 E. J. POCOSKI 2,995,820

NAIL CLIPPER

Filed June 23, 1958

Fig. 1.

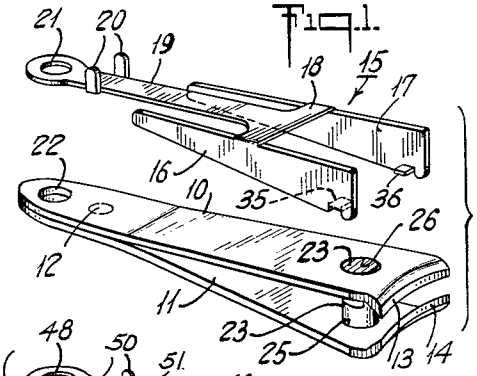


Fig. 7.

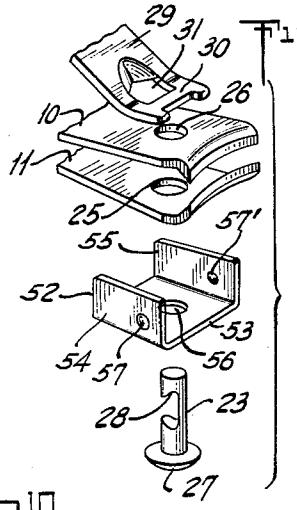


Fig. 4.

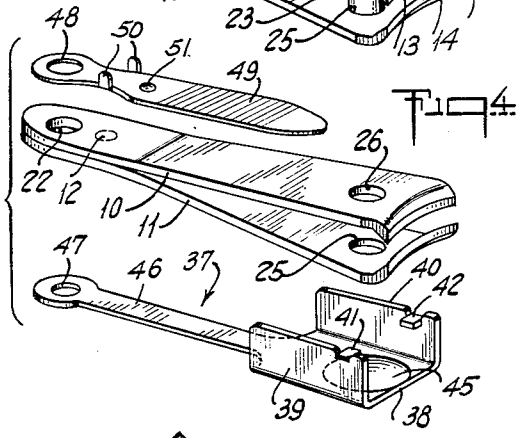


Fig. 10.

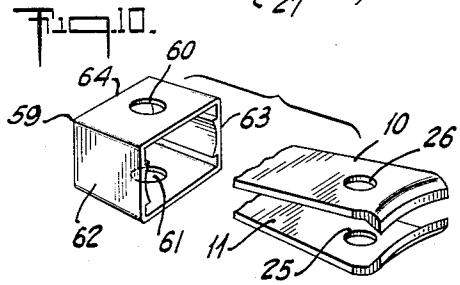


Fig. 2.

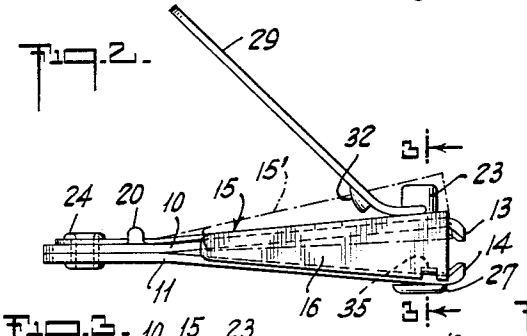


Fig. 5.

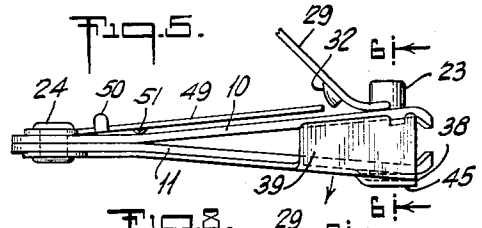


Fig. 8.

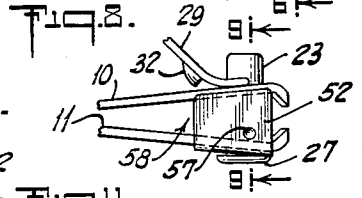


Fig. 3.

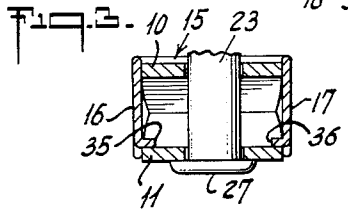


Fig. 6.

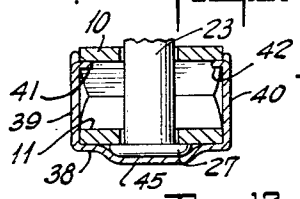


Fig. 11.

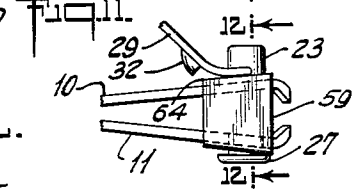


Fig. 9.

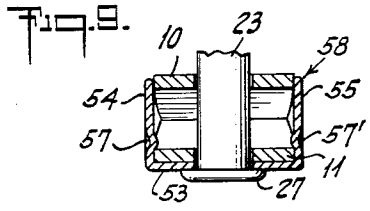
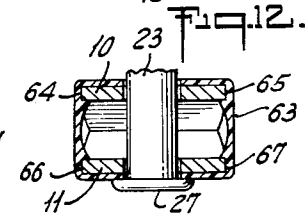


Fig. 12.



INVENTOR
EDWARD J. POCOSKI
BY Mitchell & Beckert
ATTORNEYS

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NAIL CLIPPER

Edward J. Pocoski, Naugatuck, Conn., assignor to The W. E. Bassett Company, Derby, Conn., a corporation of Connecticut

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4 Claims. (Cl. 30—28)

This invention relates to nail clippers, and the like, and in particular to the type of nail clipper described in U.S. Patent No. 2,664,624 comprising upper and lower flexible jaw members fastened together at one end and having cutter jaws at the other end, the cutter jaws being biased in the open position by the resilience or flexibility of said members.

The aforementioned clipper operates by virtue of a cam lever associated with the cutter jaws, the cam lever being connected to said flexible jaw members via a pivot pin which passes through aligned openings in the upper and lower members. The pin has a head at one end engaging one of said members, the other end extending through the members and having attachment means, for example a transverse undercut slot, to which the cam lever is connected. The cam lever is adapted to work against the resilient pressure of the flexible jaw members during a nail cutting stroke, the resilience or back pressure being sufficient to return the cutting jaws to the open position after completion of a cutting stroke.

The region bounded by the upper and lower jaw members is exposed to full view, particularly near the general area of the cutting zone. This presents certain disadvantages in that, during a cutting cycle, nail clippings tend unpredictably to deflect from the zone and in some instances strike the user in the face or near the eyes.

It is an object of this invention to provide a nail clipper characterized by guard means adapted to prevent nail clippings from deflecting unpredictably from the cutting zone.

Another object is to provide a nail clipper having guard means associated with the clipping end of the clipper adapted to collect nail clippings prior to the discard thereof.

With the foregoing and other objects in view, I have devised a novel guard combination, various embodiments of which are illustrated in the accompanying drawing, wherein:

FIG. 1 is an exploded view in three dimensions of some of the elements employed in the combination including the details of construction of one type of guard means;

FIG. 2 is a side elevation view of the whole clipper combination using the guard means of FIG. 1;

FIG. 3 is a transverse section of the embodiment of FIG. 2 taken through line 3—3;

FIG. 4 is an exploded view in three dimensions showing another type finger nail guard means;

FIG. 5 depicts a side elevation view of a complete clipper combination using the guard means illustrated in FIG. 4;

FIG. 6 is a transverse section of the embodiment of FIG. 5 taken through line 6—6;

FIG. 7 is a partial exploded view showing still another embodiment of a guard means;

FIG. 8 shows a side elevation of the nail-clipping end of the clipper based on the embodiment of FIG. 7;

FIG. 9 is a transverse cross section taken along line 9—9 of FIG. 8;

FIG. 10 shows in three dimensions another variation of a guard means adapted to fit over the nail-clipping end of the clipper;

FIG. 11 depicts a side elevation of the nail-clipping end of the nail clipper utilizing the embodiment of FIG. 10; and

FIG. 12 shows a transverse section taken along line 12—12 of FIG. 11.

Referring now to the drawing and in particular to the embodiment of FIGS. 1 to 3, the clipper comprises upper and lower jaw members 10 and 11, respectively, preferably stamped from sheet metal and which are secured in superimposed relation at one end portion by any suitable means, such as, for example, by spot weld 12. The jaw members are preferably spring members flexibly biased in the open position. The opposite ends of the jaw members are provided with cutter jaws 13 and 14 having curved cutting edges for trimming and shaping finger and toe nails.

The guard means of the FIG. 1 embodiment is indicated generally by the numeral 15 and comprises a bracket produced from a metal stamping with side walls 16 and 17 bent at substantially right angles to transverse element 18 having a tongue extension 19 with side lugs 20, said extension terminating into an eye 21 adapted to line up with eyelet hole 22 at the joined ends of the jaw members.

The forward end of the clipper near the cutting jaws has aligned openings for receiving pivot pin 23 indicated in partial section in FIG. 1. The complete combination is more clearly delineated in FIGS. 2 and 3. Guard bracket 15 is shown positioned on top of upper jaw member 10 and connected thereto through eye 21 via hollow eyelet 24 which is flanged over at the ends to secure the elements together. The hollow eyelet is desired since it enables the clipper to be attached to a key ring or a chain.

The means for operating the jaws comprises a pivot pin 23 loosely extending through aligned openings 25 and 26 adjacent the cutter jaws having a head 27 on the under side of the lower jaw, its shank extending through the upper jaw to a specified distance above the jaw. The extending end portion of the pivot pin (note FIG. 7) is provided with a curved transverse undercut recess or notch 28 adapted to receive the end of cam lever 29.

The cam lever is provided with a connecting transverse bar 30 with an opening 31 stamped out back of said bar, the stamping operation being such as to form a cam projection 32 on the underside of the lever which is bent after the cam projection to produce a high angle leverage with the upper jaw member. As described in U.S. Patent No. 2,664,624, this arrangement enables the lever to be pivoted about pin 23 and folded down onto the surface of upper jaw member 10, with the free end of the lever nested between lugs 20 of the guard bracket. The lever will stay in this position by virtue of the spring action of the jaws.

Side walls 16 and 17 of the guard bracket 15 cooperate with the sides of the upper and lower jaws (FIG. 3) to close off the space within the general area of the cutter jaws and prevent nail clippings from unpredictably shooting out of the space. To make sure the side walls cooperate efficiently with the upper and lower jaw members, they are provided with a pair of oppositely disposed lugs 35 and 36 near the bottom edge thereof. Bracket 15 is preferably of spring steel to enable resilient flexing of the tongue portion 19, the arrangement being such that in the position shown in solid outline in FIG. 2, the lugs 35—36 are preferably resiliently loaded downwardly against the inner surface of lower jaw member 11. Thus, when cam lever 29 is pressed downward so that cam projection 32 bears on upper jaw 10, the jaw 10 moves downward, while lugs 35 and 36 maintain the sidewall against downward displacement, thus assuring substantial closure of the volume between jaws 10—11 and side walls 16—17 during normal operation of the clipper. The finger nails are thus prevented from flying out during cutting and are retained temporarily within the

enclosure defined by the side walls of the guard and the upper and lower jaw members. After cutting operations have been performed (with resultant accumulation of clippings in the said enclosure or volume), these clippings may be readily discharged by manually grasping sidewalls 16—17 and raising the same (as to the position 15' shown in phantom outline in FIG. 2) for edgewise discharge via the then-open space between jaws 10—11.

Another embodiment shown in FIGS. 4 to 6 utilizes a U-shaped guard means indicated generally by numeral 37 and which is fastened adjacent the lower jaw member. The guard comprises a base 38 with side walls 39 and 40 with oppositely disposed lugs 41 and 42 at the upper forward ends of the side walls.

The base has a depression 45 stamped therein to receive head 27 of the pivot pin (FIG. 6). A spring tongue 46 coextensive with base 45 is provided which terminates into eye 47 through which said guard means is attached to the clipper jaws via an eyelet 24 which passes through opening 22 and through opening 48 of file 49 which is pivotally mounted on upper jaw 10 of the clipper. The file has a dimple or bump 51 on its under side to provide the necessary frictional contact with the upper jaw to hold the file in the folded position; it is also preferably provided with upwardly extending lugs 50 to receive and locate side edges of the lever 29, when reversed and folded in collapsed position over the file 49 and upper jaw 10.

The guard means is preferably made of resilient sheet material and is preferably preloaded in the direction to normally load lugs 41—42 against jaw 10. Thus, when cam lever 29 is pressed downward so that upper jaw 10 is displaced towards lower jaw 11, U-shaped guard 37 moves downward with the upper jaw by coaction of the jaw with the lugs on the side walls of the guard. Upon completion of the cutting stroke, the guard springs back into the position shown in FIGS. 5 and 6, and throughout normal use the side walls 39—40 remain in place to retain or at least to deflect clippings. The clippings may be discharged by grasping side walls 39—40 and pulling them down until lugs 41—42 strike the lower jaw 11; resilient action of tongue 46 will return the guard 37 to its normal position upon release.

A further simple embodiment is that shown in FIGS. 7 to 9. The guard means is U-shaped stamping 52 which is made large enough to confine or deflect the nail clippings within the general area of cutting. The elements of the guard comprise base 53 with side walls 54 and 55 bent up at approximately right angles to the base. The base is provided with an opening 56 which is aligned with openings 26 and 25 of the upper and lower jaws, respectively, for receiving pivot pin 23 which holds the guard in place via connecting bar 30 of cam lever 29 as shown in more detail in FIG. 8.

For ease of assembly, the side walls of the guard may be provided with dimples or bumps 57 and 57' for retaining the guard in assembled relation with lower jaw 11 (note FIG. 9). The guard means is more permanently held against the bottom face of the lower jaw by head 27 of the pivot pin by virtue of the preloaded spring action of the upper and lower jaws. Upper jaw member 10 is thus movably retained within the side walls of the guard and will move up and down within the side walls by the action of the cam lever. In use, the side walls 54—55 serve principally to deflect clippings from shooting out directly; to a large extent they will retain accumulated clippings, for later discharge through the space or opening 58 between jaws 10—11 (see FIG. 8).

The embodiment of FIGS. 10 to 12 comprises a rectangular sleeve 59 of resilient or spring plastic material which is slipped over jaw members 10 and 11 and held in place by pivot pin 23 passing through aligned openings 60 and 61 of the top and bottom surfaces of the sleeve and openings 25 and 26 of the jaws. The side walls 62 and 63 are provided with upper and lower longitudinally extending grooves or shoulders 64, 65, 66 and 67 into which jaw members 10 and 11 are snapped in place (FIG. 12), the width of the grooves being just sufficient to accommodate the thickness of each jaw member. Upper jaw member 10 is thus movably retained in home position. As in the embodiment of FIGS. 7 to 9, the guard means needs just to be large enough to confine the nail clippings within the general area of cutting and the action is primarily one of deflecting clippings. When upper jaw member 10 is caused to move downward, the side walls 62 and 63 bulge outward, but nevertheless continue to serve a deflecting function. It will be noted that the rear top edge 64 of the sleeve guard 59 is sufficiently close to the pin opening 60 that it does not interfere in any way with motion of cam 32 over the top surface of jaw 10 during normal clipper operation.

Whereas this device is here illustrated and described with respect to preferred specific practice, it should be understood that various changes may be made by those skilled in the art, without departing from the essential inventive contributions defined by the following claims.

It will be seen that I have described an invention adaptable to clippers of conventional design and substantially increasing the utility thereof. Regardless of the form of the invention, there is very little additional assembly work involved in incorporating my invention, and the incorporation of my invention in no way impairs normal convenience or operation of the conventional clipper.

What is claimed is:

1. A nail clipper comprising opposed, elongated flexible jaw members fastened together at one end and having cutter jaws at the other end, said members being flexibly biased in the open position, a pivot pin passing through aligned openings in said jaw members intermediate the ends of said members near the cutting jaws, said pin having a head at one end for engaging one of said jaw members and a lever attachment means at its other end, a cam lever for operating said jaw members pivotally connected to said pin attachment means, a single guard element secured to said jaw members at the end remote from said pivot pin, said guard element comprising two opposed side walls defining with said jaw members, an enclosure for confining clippings during a cutting stroke, and a flexible tongue integrally connected to said side walls and extending to the point of connection of said jaw members said tongue being sufficiently flexible with respect to the cutting jaw ends to permit said guard element to be flexed away from said jaw members by manual pressure to open substantially completely said enclosure.

2. The clipper of claim 1, in which one of said side walls includes a retaining lug projecting toward the other side wall in the space between said jaw members.

3. The clipper of claim 1, in which said tongue is normally resiliently flexed against the jaw member engaged by the head of said pin.

4. The clipper of claim 1, in which said tongue is normally resiliently flexed against the jaw member which engages said cam lever.

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