Feb. 5, 1935. W. H. WRIGHT ET AL 1,990,154

CLICKING KNIFE OR DIE

Filed Feb. 6, 1933 2 Sheets-Sheet 1

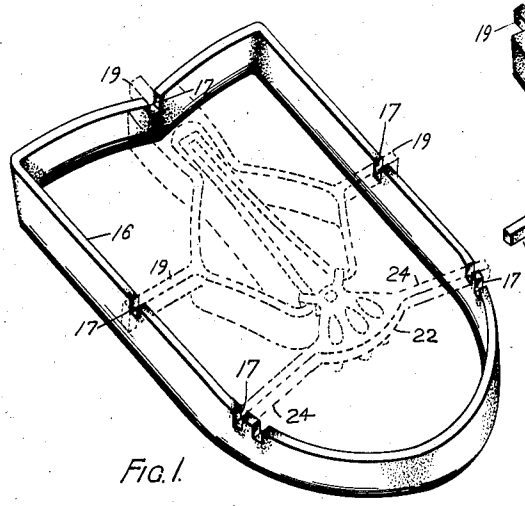


FIG. 1.

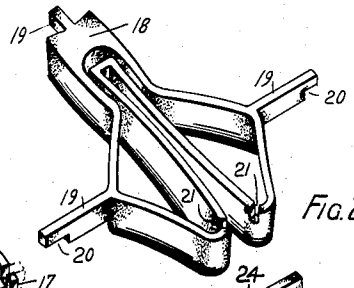


FIG. 2.

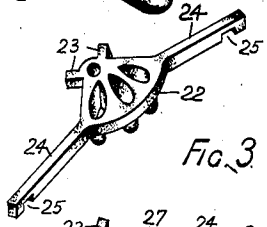


FIG. 3.

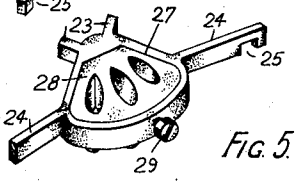


FIG. 5.

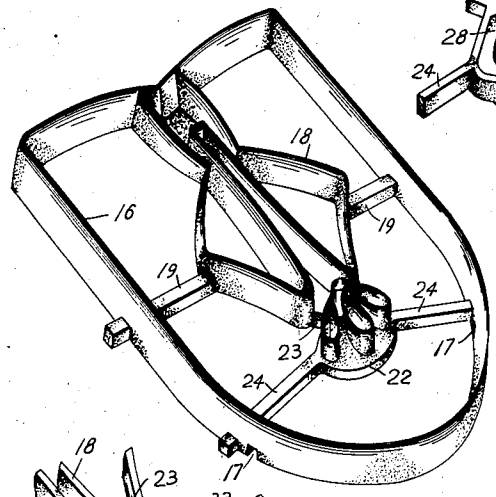


FIG. 4.

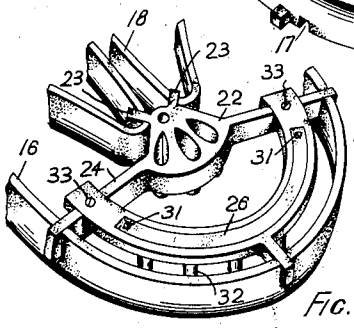


FIG. 6.

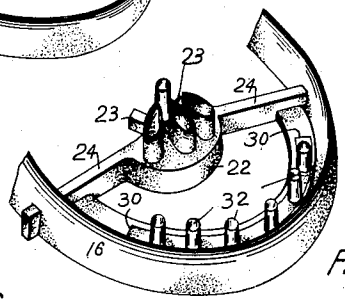


FIG. 7.

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Feb. 5, 1935. W. H. WRIGHT ET AL 1,990,154

CLICKING KNIFE OR DIE

Filed Feb. 6, 1933 2 Sheets-Sheet 2

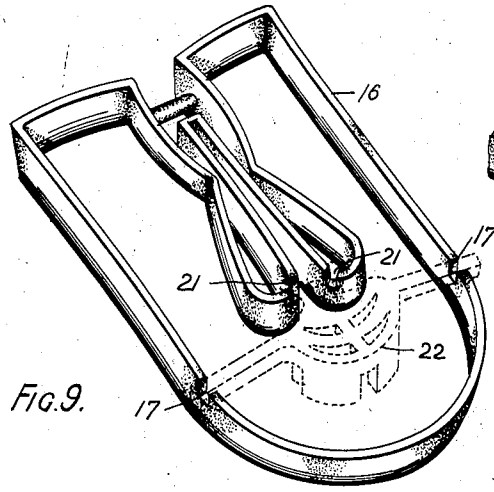


FIG. 9.

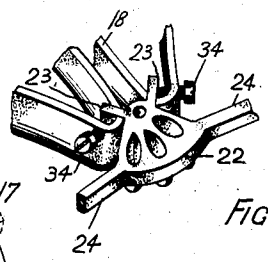


FIG. 8.

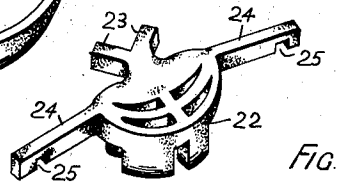


FIG. 10.

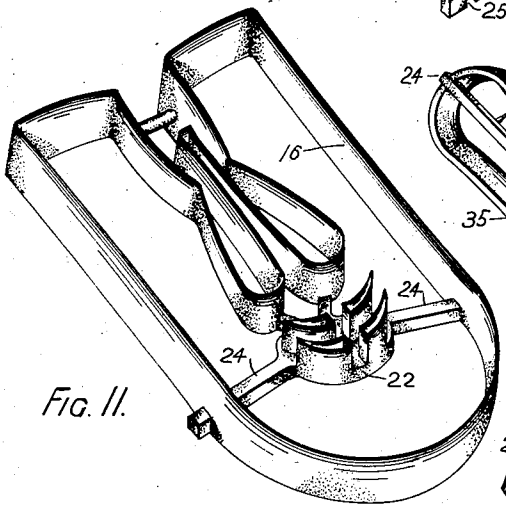


FIG. 11.

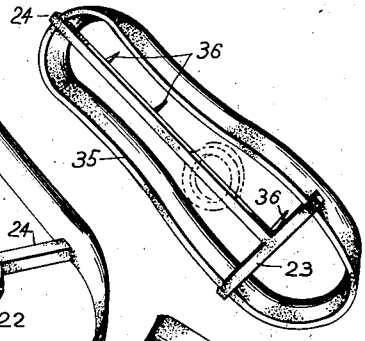


FIG. 12.

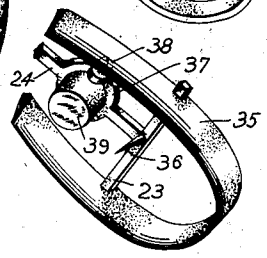


FIG. 13.

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Patented Feb. 5, 1935 1,990,154

UNITED STATES PATENT OFFICE

1,990,154

CLICKING KNIFE OR DIE

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Application February 6, 1933, Serial No. 655,535
In Australia February 16, 1932

1 Claim. (Cl. 164—29)

This invention relates to clicking knives also known as dies used in boot, shoe and other leather and like goods manufacture to cut and punch out blanks such as the shape and patterning of uppers and soles for boots and shoes and like blanks for bags, purses, braces et cetera, and which dies hitherto have been made with the shape and configuration of the blank and any desired inner configuration or patterning integral thus necessitating the whole to be made for each different size and for each different inner configuration and/or patterning required thereby involving considerable cost and tending to restrict manufacture to a few designs and patternings.

Now this invention has been specially devised in order to provide an improved clicking die or knife which has the main or outer die formed to the desired outer configuration and when desired also to the inner or to some of the inner configuration of an upper, et cetera, and is adapted for the ready application thereto or combination therewith of interchangeable auxiliary dies whether for cutting, punching, piercing, perforating and/or branding thereby enabling one main clicking die for each size to suffice, and with the addition thereto of a desired auxiliary die or plurality thereof to click or form by one operation a blank such as a boot or shoe upper of desired inner configuration and any desired patterning formed therein, thereby permitting the auxiliary die or dies to be interchangeably used with main dies of different sizes, which very considerably reduces the cost of clicking and patterning dies and consequently the cost of articles produced with the aid thereof, and permits marking, piercing and/or branding dies to be associated with the clicking dies for soles, so that guide markings or piercings, and/or a brand or other marking or printing will be made on or in the sole blank as same is clicked or formed.

The improved clicking die comprises the usual main die or knife such as for a boot or shoe upper, or sole, a bag, purse or braces, blank, to required configuration and size, provided with slots in its back or upper face at requisite positions, and for use therewith are provided improved auxiliary dies which have the functioning face formed to a blade or cutting edge to desired inner configuration and/or pattern or to a marking or piercing or perforating part or parts and/or a brand, and have projections or arms at requisite positions to seat in the slots of the main die, and when desired the auxiliary die or dies is or are also provided with slots at requisite positions in its or their back or upper face to receive projections of an additional auxiliary die or plurality thereof so that an additional auxiliary die or plurality thereof may be added to another auxiliary die and thus enable to be used therewith interchangeable additional auxiliary dies.

And to permit the application of auxiliary dies to the main and an inner configuration die or to adjust the position of such dies as when an inner configuration die is to be arranged at desired longitudinal position of the main die the latter has a plurality of slots in its back and a pattern or other die may be constituted of a die carrier consisting of arms with a socket formed therein and an armless die secured in the said socket such as by a set screw, which construction and arrangement enables the one die to be used in different carriers having their arms disposed at respectively different angles so as to fit in the slots of the main die and the slots in the other auxiliary die or dies and hold the additional auxiliary die at desired position, or where an auxiliary die will permit, the arms may have a rabbeted slot therethrough and interchangeable dies may be emplaced therethrough and secured as by countersunk screws.

To avoid having to lift out separately two or more auxiliary dies from a main die to another main die the plurality of dies arranged to an inner configuration and patterning or patternings may be disengageably secured together in convenient manner so as to be movable as a unit.

In order that the invention and practical applications thereof will be readily understood and without restricting the scope and effect of the former the same will now be described with reference to the accompanying drawings in which;

Figures 1, 2 and 3 are back perspectives of an upper main die, an auxiliary inner configuration die and an auxiliary pattern die,

Figure 4 is a face perspective of the three dies assembled,

Figure 5 is a fragmentary perspective of a carrier for interchangeable auxiliary dies,

Figures 6 and 7 are fragmentary back and face perspectives respectively of an additional auxiliary pattern die having an interchangeable functioning face,

Figure 8 is a fragmentary perspective of means for removably securing together an interchangeable die to the main die or interchangeable dies or dies and die carriers together,

Figures 9 and 10 are back perspectives of another main die and a pattern die,

Figure 11 is a face perspective of these two dies assembled, and

Figures 12 and 13 are back perspective and fragmentary face perspective of a sole die with auxiliary marking or punching and branding die applied thereto.

Referring to Figures 1 to 4 the main die 16 has slots 17 formed in its back at desired positions and an auxiliary inner configuration die 18 has projecting arms 19 at requisite positions with reduced ends 20 to form shoulders so that when the die 18 is applied to and combined with the main die 16, the arm ends 20 will seat in the slots 17 and the die 18 will be held in correct position in relation to the die 16.

When it is desired to cut or form patterning from or on the upper or other blank a slot or slots 21 is preferably provided in the inner configuration part of the main die or in such a die associated with said main die, and an auxiliary or pattern die 22 (Figure 2) having stub arms 23 and arms 24 which may have slots 25 near their ends is applied to the dies 16 and 18 as shown in Figures 1 and 4, also 9 and 11, and when a pattern die will permit an additional pattern die 26 (Figures 6 and 7) may be applied thereto and/or the main die 16 in the same manner, that is by arms seated in slots.

Instead of an auxiliary die being made with integral arms of which those laterally disposed may not fit in the slots of the main die when its other arms are engaged in other slots of said main die or in the slots of other auxiliary dies, an auxiliary die carrier (Figure 5) is provided and has its arms 23 and 24 disposed at desired angles, and a socket 27 for reception of an armless die 28 which is secured such as by a set screw 29, or the die carrier may be formed as in Figures 6 and 7 with a rabbeted slot 30 for the die 26 which will fit thereinto and can be secured by screws 31 so that varying dies such as with punches 32 spaced differently or of different sizes may be interchangeable.

When desired interfitting dies or dies and die holders may be removably secured together such as by screws 33 in Figure 6 or screws 34 in Figure 8.

A main die 35 for a sole as in Figures 12 and 13 is provided with slots as 17 (Figure 1) in its back, and for use therewith is provided an auxiliary die comprising arms 23 and 24 which may have slots such as 25 (in Figure 3) near their ends, and has formed or affixed on said arms, marking, piercing or cutting parts 36, and, when desired, a die slot 37 which may have a set screw 38 through the wall is formed with the arm 24 in order that a branding die 39 may be applied and secured by said set screw so that when a sole is clicked by the die 35 nail positions will be marked or pierced by the parts 36, and a brand may be made upon the sole by the brand die 39 by the one operation.

The ends of any of the auxiliary die arms may be shouldered as in Figure 2 or slotted as at 25 in Figure 3 or otherwise suitably formed.

We claim:—

In combination, a main clicking die having slots in the back thereof, an auxiliary clicking die having arms engaged in said slots, said auxiliary clicking die having slots therein, and an additional auxiliary die having arms engaged in the slots of the first named auxiliary die.

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WALTER MELBOURNE WRIGHT.