May 3, 1938. W. BEYER 2,116,231

SAFETY MATCH HOLDER

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Fig. 1.

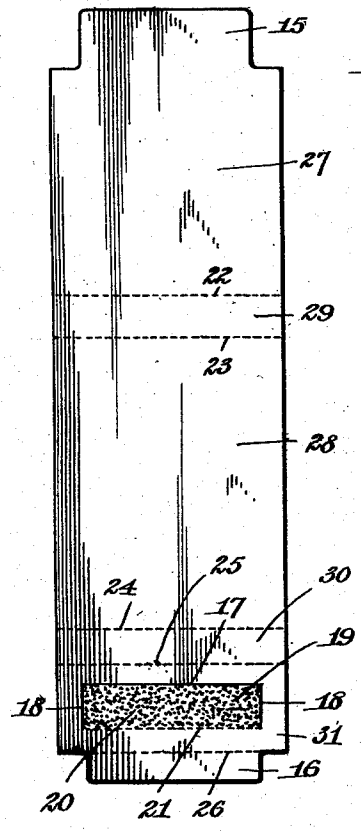


Fig. 2.

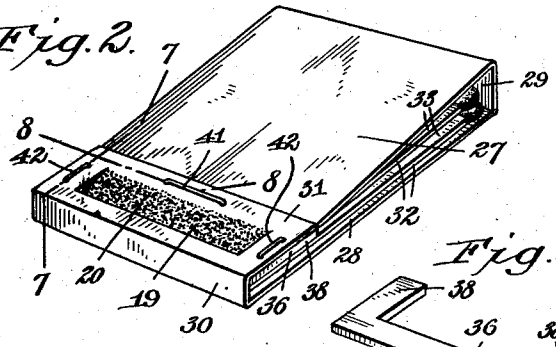


Fig. 9.

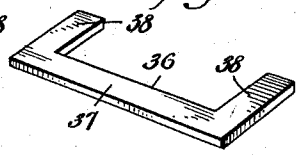


Fig. 3.

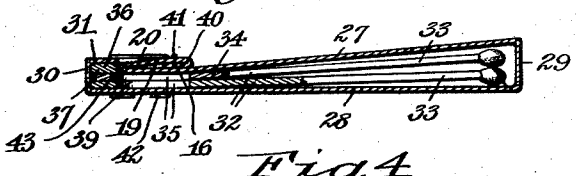


Fig. 4.

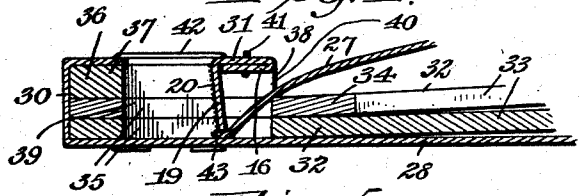


Fig. 5.

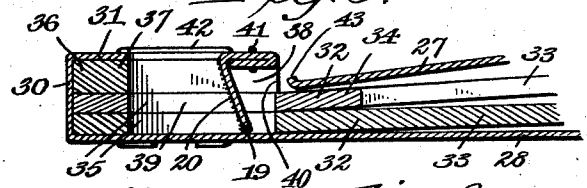


Fig. 6.

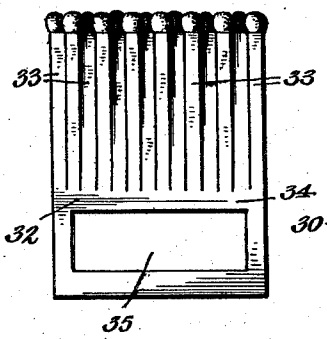


Fig. 7.

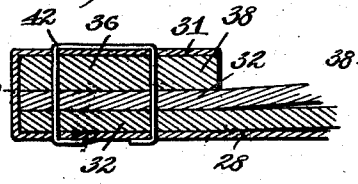
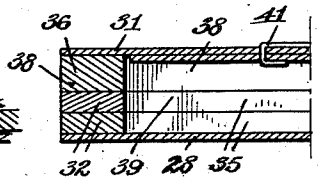


Fig. 8.



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SAFETY MATCH HOLDER

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Fig. 10.

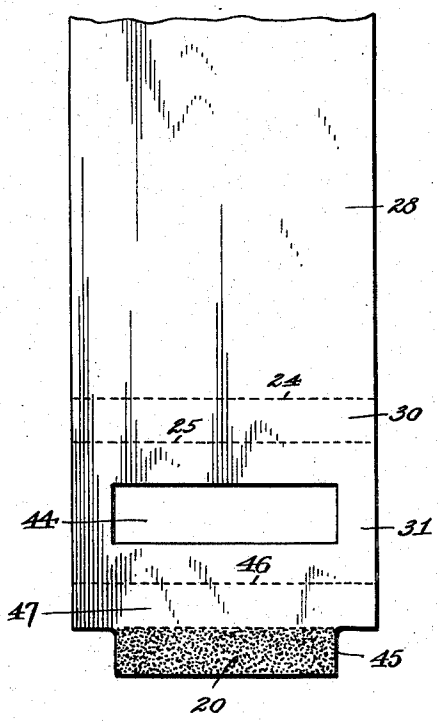


Fig. 12.

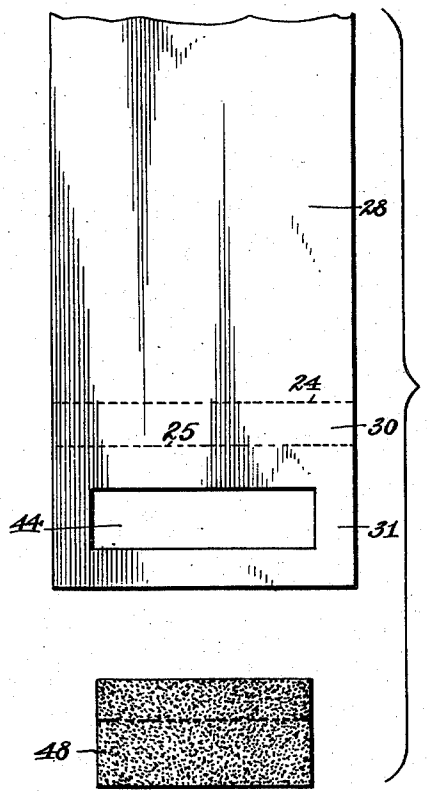


Fig. 11.

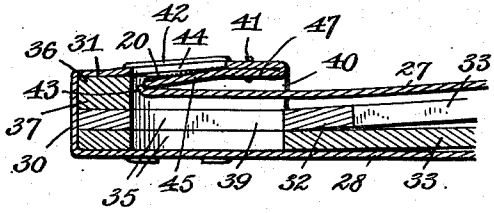
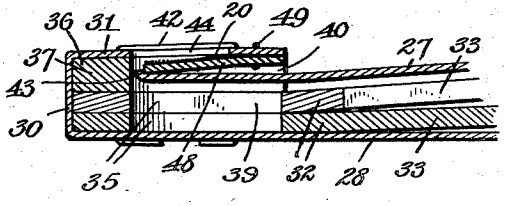


Fig. 13.



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UNITED STATES PATENT OFFICE

2,116,231

SAFETY MATCH HOLDER

Walter Beyer, North Tonawanda, N. Y.

Application February 8, 1937, Serial No. 124,557

6 Claims. (Cl. 206—29)

My invention relates to a match folder or compact of the type in which paper matches are confined within a folded cardboard covering.

The primary object of my invention is to improve the conventional type of match folder or compact now in general use so as to render it impossible to strike a match taken from the folder without completely closing the folder.

Many accidents have occurred with the regulation type of match folder now in common use by reason of a spark projected from a match being ignited reaching the headed ends of a series of matches within the folder, usually occasioned by reason of carelessness of the user leaving the cover open. Consequently a further object of my invention is to so construct the folder that the striking area is moved to a position of disuse during the act of opening the folder; is so retained while the folder is opened; and is automatically returned to normal or striking position upon closing of the cover.

A further object of my invention is to include such advantages without adding to the number of parts embodied in a conventional match folder, and without materially increasing the cost of such a folder.

With these and other objects in view to appear hereinafter, my invention consists in the novel features of construction and in the arrangement and combination of parts to be hereinafter described and more particularly pointed out in the subjoined claims.

In the drawings,—

Fig. 1 is a face view of a blank of cardboard or other sheet material used as the casing of a folder constructed in accordance with my invention.

Fig. 2 is a perspective view of a complete match folder or compact constructed in accordance with my invention.

Fig. 3 is a longitudinal section taken centrally through the same.

Fig. 4 is a longitudinal section of the match-securing end of the folder or compact, the same being enlarged and showing the cover portion of the casing partly withdrawn in the act of opening the same, and the striking lid in the act of being retracted so as to be brought into a position of disuse.

Fig. 5 is a section similar to Fig. 4 showing the striking lid fully retracted and retained in frictional contact with the bottom of the casing, and also showing the cover free of the striking lid and about to be fully withdrawn to completely open the match folder and render the matches therein selectively accessible.

Fig. 6 is a view of one of the sheets of matches.

Fig. 7 is an enlarged longitudinal section taken on line 7—7, Fig. 2.

Fig. 8 is an enlarged cross section through one-half the width of the folder taken on line 8—8, Fig. 2.

Fig. 9 is a detached perspective view of the spacing insert used at the match-securing or striking end of the folder.

Fig. 10 is a face view of a portion of a blank of cardboard or other sheet material modified from that shown in Fig. 1 and to be used as the casing of a folder in accordance with the basic idea involved in my invention.

Fig. 11 is a view similar to Fig. 3 on an enlarged scale, showing the construction of the butt end of the folder produced by the blank shown in Fig. 10.

Fig. 12 is a face view of a portion of a blank of cardboard or other sheet material showing a still further modified form of blank employed in the construction of my invention in association with a striking member.

Fig. 13 is a view similar to Fig. 3 on an enlarged scale, showing the construction of the butt end of the folder produced by the blank and striking member shown in Fig. 12.

In the main this folder has the appearance of a common match folder, but the blank differs from those now in use in that one end thereof is reduced in width, as at 15, to form an insertion or lock flap. The other end of this blank is also reduced in width to form a reinforcing flap 16 and it is provided near said end with a comparatively long transverse slit or incision 17, at opposite ends of which comparatively short longitudinal slits 18 are formed. The slits or incisions 17 and 18 form a hinge flap or lid 19, one side of which is coated with a substance 20 of the kind usually employed on match folders of this type to serve as an abrasive for striking matches as they are successively removed or torn from the folder. The coated surface of the flap or lid 19 may be referred to as a striking area, and it is normally slightly bent downwardly, as indicated in Fig. 3, the bend being formed along the dotted line 21 in Fig. 1. If desired this flap or lid may be scored along the dotted line, preferably along the outer surface of the sheet of material employed.

This blank, when properly formed to shape, serves as the casing of the match folder or compact, it being folded along the dotted lines 22,

23, 24, 25, and 26. When thus folded, the portion 27 between the insertion or lock flap 15 and the dotted line 22 serves as the cover of the match folder; the portion 28 between the dotted lines 23 and 24 as the bottom; the portion 29 between the dotted lines 22 and 23 as the upper end wall; the portion 30 between the dotted lines 24 and 25 as the lower or butt end wall of the folder; and the portion extending from the dotted line 25 to the adjacent end of the blank as the securing portion 31 whereby the matches within the folder are fastened in place. However, this securing portion is folded upon itself along the dotted line 26 to serve as the reinforcing flap 16.

Sheets of paper matches 32 overlie each other, usually two such sheets being employed in an ordinary folder, and these are laid against the bottom 28 of the folder. These sheets of paper matches are constructed in the conventional manner by slitting them into narrow strips so as to form the matches 33 which are integral with a transversely continuous portion 34, and the free ends of which are headed in the usual manner, usually with a material which cannot be ignited except when frictionally applied over a striking surface, such as 20. These sheets of matches differ however from the conventional match sheet, since they have near their lower ends slots or transversely elongated openings 35. The unslitted ends of these match sheets lie in contact with the lower or butt end wall of the folder, as best shown in Figs. 4 and 5, and superposed over the transversely slotted ends of these match sheets is a spacing insert 36 which comprises a cross member 37 and two end members 38, thus forming a transversely-widened U-shaped insert or filler against which the securing portion of the blank is folded, with the reinforcing flap 16 folded underneath this securing portion so as to lie between the two end members 38 of the spacing insert, as best shown in Figs. 4, 5, and 8.

The slots or openings 35 in the match sheets and the space between the end members 38 of the spacing insert form a pocket 39 into which the striking flap or lid 19 is designed for hinged movement. Normally this striking flap or lid is positioned as shown in Figs. 2 and 3, in which position it is at a slight angle to the surface of the securing portion of the cover, and it is so maintained by the insertion or lock flap 15, which is entered into said pocket 39 when the cover 27 of the folder is closed, said flap or lid being of a width to permit its entrance between the end members 38 of the spacing insert and into the slots or openings 35 of the match sheets, as best shown in Figs. 3 and 4. Thus when the parts are assembled and secured in their respective positions, an entrance throat 40 is formed between the upper match sheet and the reinforced part of the securing portion of the casing. By folding the end of the blank shown in Fig. 1 along the dotted line 26, the end of the blank is stiffened, and this stiffened terminal bridges the entrance throat 40 so as to provide the necessary rigidity for the striking flap or lid 19, which extends therefrom into the pocket 39.

The under-folded terminal or flap 16 of the blank is secured to the overlying portion of the blank by a wire staple 41, and the securing portion of the casing, as well as the match sheets and the spacing insert, are all firmly fastened to the bottom 28 of the folder by staples 42 passed through all of these parts and clinched on the under side of the cover. This end of the folder I term the butt end and when the folder is closed, the insertion or lock flap 15 is passed through the entrance throat 40 and lies underneath the striking flap or lid 19, which normally is sufficiently resilient along the dotted line 21, which may be considered its hinged area, to assume a position in which it presents a striking surface to the user, and this flap or lid is supported by the insertion or lock flap 15, which is slightly upset at its free end, as at 43, to engage the end of said flap or lid 19, as clearly shown in Figs. 3 and 4. Thus, after having opened up the folder or compact and detached a match from the match sheet, the cover 27 must be closed in order to move the striking flap or lid 19 into a position of use, which it assumes even though it may be at a slight angle to the surface of the securing portion of the cover.

When opening the cover, the upset or flanged terminal 43 pulls the striking flap or lid downwardly and rearwardly, as shown in Fig. 4, and in doing so may lift the throat-bridging part of the securing portion. Upon withdrawing the cover from engagement with the striking flap or lid 19, the end of the latter will immediately engage the bottom 28, and by reason of this throat-bridging part of the securing portion having been flexed under the pulling strain of the cover 27, the tendency of the throat-bridging part to assume its normal position will create a binding effect against the edge of the flap or lid 19, with the result that the latter will be held at an acute angle to the outer surface of the securing cover, as shown in Fig. 5, thus making it practically impossible to strike a match while the cover remains open.

After tearing or otherwise detaching a match from its match sheet, the cover 27 is closed by inserting the insertion or lock flap 15 thereof through the entrance throat 40 leading to the pocket 39, and applying force with the cover engaging the striking flap or lid 19 and swinging the same out of frictional contact with the bottom 28. During the act of moving the insertion or lock flap 15 into the pocket 36, the striking flap or lid is swung forwardly and upwardly, while the terminal of this insertion or lock flap rides underneath the striking flap until the upset or flanged terminal 43 of said insertion or lock flap passes the end of the striking flap or lid, whereupon said upset or flanged terminal engages the end of the striking flap or lid. Therefore, upon withdrawing the cover, the said striking flap or lid will again be moved into retracted position; but during the period of time that the cover is closed, that portion of the cover entered into the pocket 39 will retain the striking lid or flap in elevated position so that a match can be easily ignited by frictional contact with the abrading substance applied thereto.

It will be noticed that in the blank shown in Fig. 1, the striking flap or lid 19 is spaced a short distance from the reinforcing flap 16, but substantially the same advantages derived from the construction described may be obtained from a blank fashioned as shown in Fig. 10. While in this figure a portion of the blank only is shown, the remainder of the blank is exactly as shown in Fig. 1. In Fig. 10 a transversely-elongated opening 44 is formed near one end of the blank and the reinforcing flap 16 shown in Fig. 1 dispensed with. A flap 45, similar to the reinforcing flap, is shown in this blank, and it has one side coated with the abrasive substance 20. Thus in this instance the flap is converted into a striking

member or region. The blank is also folded along the dotted line **46**, and the region **47** between the striking flap **45** and the dotted line **46** serves as the reinforcing element of the securing portion of the casing or folder. This blank is folded in the same manner as that described in Fig. 1 up to the fold line **25**, and that portion, in Fig. 10, extending downwardly from the fold line **25**, including the striking flap **45**, serves as the securing portion **31**, which is bent over the spacing insert **36** with the reinforcing element **47** lying against the upper surfaces of the spaced end members **38** of the spacing element, the striking flap or lid inclining downward slightly into the pocket **38** and being engaged by the cover **27** in the same manner as provided for in the main construction.

In the modification shown in Fig. 12, the blank is similar to that shown in Fig. 10, with the exception that the abrasive-covered striking flap and the reinforcing portion **47** are dispensed with. Associated with this blank is a separate striking element **48** which may be cut from a roll or sheet of abrasive-covered material, so that no spaced regions need be covered with the abrasive substance in order to provide a striking surface. In this blank the securing portion **31** extends from the dotted line **25** to the lower end, as shown in Fig. 12, and it has secured to the region between the transversely elongated opening **44** therein and the adjacent end edge of the blank, an underlying portion of the striking member **48** which is stapled thereto as shown at **49** in Fig. 13. The abrading side of this member **48** faces upwardly and therefore a portion of the abrasive material is covered by the securing portion of the casing or folder. The mode of striking matches and operating the striking member **48** is exactly as provided for in the preceding figures.

The modifications shown and Figs. 1 to 8 of the drawings illustrate several constructions falling within the scope of my invention as set out in the appended claims. Other modifications may be devised without departing from the scope of my invention.

Having thus described my invention, what I claim is:

1. A match folder comprising a casing formed of a sheet of material bent to form a bottom, opposite end walls, a cover hinged to one end wall and a securing portion extending from the other end wall, match sheets secured within said folder by said securing portion, and a striking lid carried by said securing portion and in striking position when said cover is closed, said lid and cover having cooperating means causing said lid to be moved into a position of disuse when said cover is being opened.

2. A match folder comprising a casing having a bottom, opposite end walls, a cover extending inwardly from one of said end walls and a securing portion extending inwardly from the other end wall, match sheets fastened between the bottom and said securing portion and having openings in their secured ends, and a striking lid formed on said securing portion and hingedly movable within the openings of said match sheets, said striking lid and cover having engaging portions to cause said lid to be moved under the opening and closing movements of said cover and to permit the striking of a match only when said cover is closed.

3. A match folder comprising a casing formed of a sheet of material bent along lines disposed transversely to form a bottom, opposite end walls, a cover hingedly applied to one of said end walls and extending inwardly therefrom and a securing portion extending inwardly from the other end wall, match sheets having slitted portions forming matches and unslitted portions positioned between said securing portion and said bottom wall, and a spacing insert between said match sheets and said securing portion, said securing portion being provided with a match striking element normally engageable by said cover and accessible to a match to be ignited by frictional contact therewith when said cover is closed, said striking element being rendered inaccessible upon opening said cover, and means for fastening said securing portion, spacing insert, match sheets and bottom together.

4. A match folder comprising a casing formed of a sheet of material bent along lines disposed transversely to form a bottom, opposite end walls, a cover hingedly applied to one of said end walls and extending inwardly therefrom and a securing portion extending inwardly from the other end wall, match sheets having slitted portions forming matches and unslitted portions provided with transverse openings and positioned on said bottom in superimposed relation, and a spacing insert between said match sheets and said securing portion comprising a transverse member and spaced-apart end members, the space between said end members being alined with said transverse openings so as to form a pocket, said securing portion having a striking lid movable within said pocket and adapted for engagement with the free end of said cover to permit the latter to move said striking lid into striking position when said cover is closed and into a position of disuse when said cover is open.

5. A match folder formed of sheet material folded to form an enclosure having matches secured between a fold thereof, said folder including a cover hinged at one end thereof and having a movable striking flap at its other end normally retained in accessible position by said cover to enable a match to be struck thereon when said cover is closed, said cover having means to engage said flap and move the same into inaccessible position when opening said cover so as to render said flap inaccessible when said cover is open.

6. A match folder comprising a casing formed of a sheet of material folded to form a bottom, opposite end walls and a cover hinged at one end to one of said end walls and having its other end free, said folder having also a match-securing portion at that end opposite the hinged portion of said cover behind which the free end of the latter is retained, said securing portion being provided with a hinged match striking flap and said flap and cover having engaging means whereby said flap is rendered accessible by said cover when the latter is closed, and whereby said flap is rendered inaccessible by said cover when the latter is open.

WALTER BEYER.