J. L. KELLOGG.

SURPRISE AND ALARM DEVICE.

APPLICATION FILED JAN. 6, 1915.

1,166,053. Patented Dec. 28, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

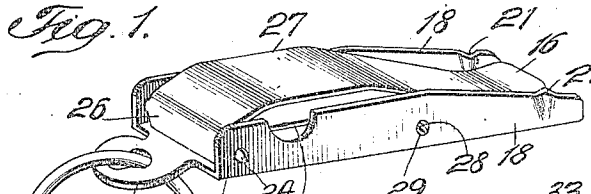
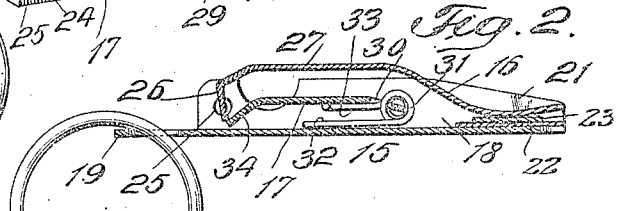


Fig. 2.



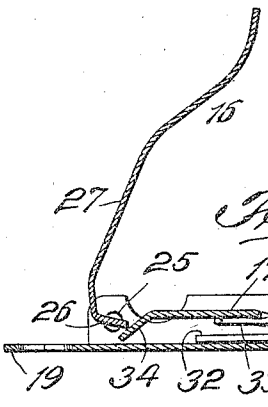


Fig. 3.

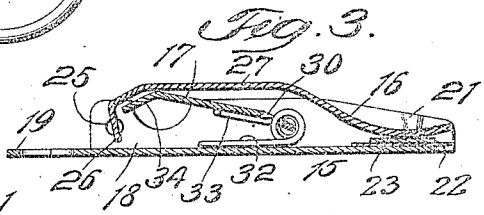


Fig. 4.

Fig. 5.

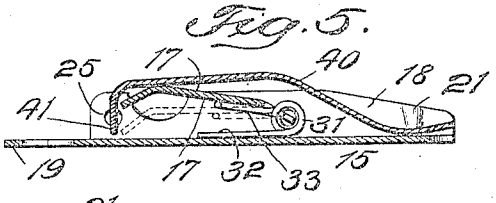


Fig. 6.

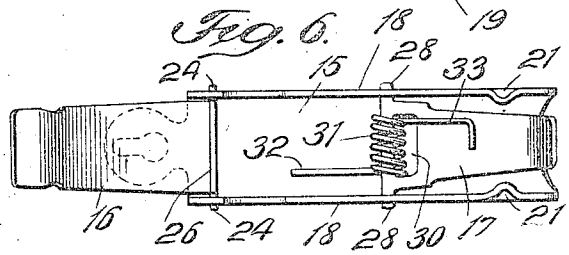
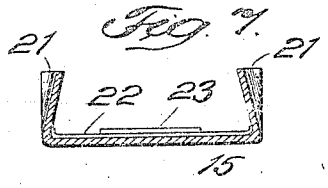


Fig. 7.



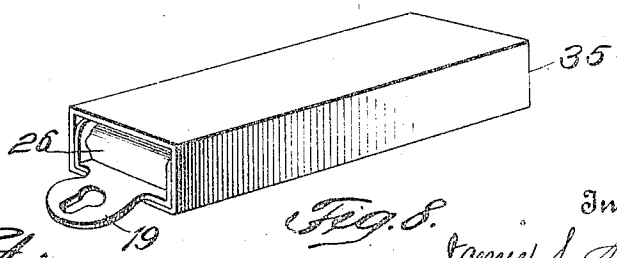


Fig. 8.

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2 SHEETS—SHEET 2.

Fig. 9.

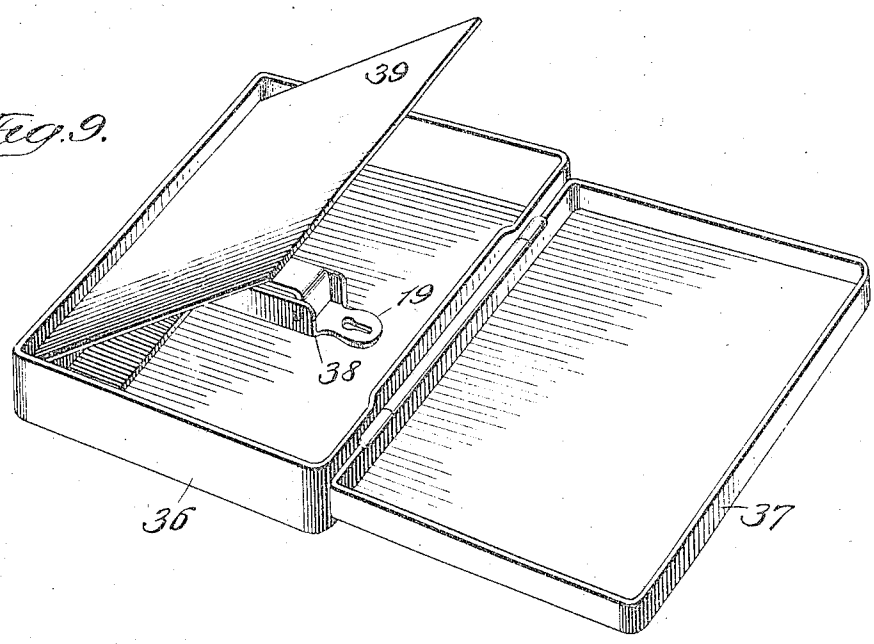
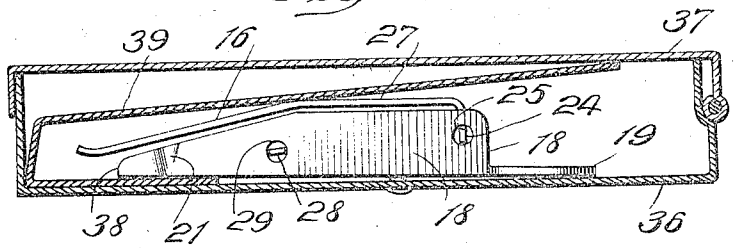


Fig. 10.



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UNITED STATES PATENT OFFICE.

JAMES L. KELLOGG, OF NEW YORK, N. Y.

SURPRISE AND ALARM DEVICE.

1,166,053. Specification of Letters Patent. Patented Dec. 28, 1915.

Application filed January 6, 1915. Serial No. 712.

To all whom it may concern:

Be it known that I, JAMES L. KELLOGG, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Surprise and Alarm Devices, of which the following is a specification.

The invention pertains more particularly to improvements in the class of devices by which on the movement of a part, such as hinged arm, the lid of a box or a door, a spring actuated hinged hammer-arm may act to explode a cap.

The mechanism of my invention may be employed wholly for amusement purposes or for more serious purposes, as when, for illustration, it is applied to a door or door-frame of a room and arranged to become operative to explode a cap on the opening of the door leading to said room, the explosion of the cap then serving as an alarm to the occupant of the room.

The present invention may be said to embody certain improvements on the devices disclosed in the patents granted to me on April 5, 1910, No. 954,031, and October 15, 1912, No. 1,041,095, the mechanism presented by the present invention being of improved character and capable of wider application in the methods of its use than the devices disclosed in said patents.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a perspective view of a device constructed in accordance with and embodying my invention, the parts of the same being in their normal set position ready for such manipulation as may be required to release the hammer arm to explode a cap; Fig. 2 is a central vertical longitudinal section of the same, the parts being shown in their set position, but the cap being absent; Fig. 3 is a view corresponding with Fig. 2, but showing the hammer arm as having been released from the heel of the outer arm or leaf of the device and as having turned upwardly against said outer arm or leaf, this release of the hammer arm having been effected by slight pressure applied upon the upper bowed portion of said outer arm; Fig. 3 may be considered as showing the set position of the parts when the device is confined within a box or receptacle which normally prevents the hammer arm from throwing the outer arm or leaf outwardly; Fig. 4 is a corresponding section of the device showing the manner of manipulating the parts thereof into the position in which they are shown in Fig. 2, Fig. 4 showing the hammer arm as moved to its set position and the outer arm or leaf as having been turned sufficiently over said hammer arm to engage its heel portion with the outer edge of said hammer arm, said heel when thus engaged with the hammer arm holding the latter down during the further closing movement of the outer arm or leaf to the position shown in Fig. 2; Fig. 5 is a corresponding section of a modified form of the invention, the modification consisting only in the heel of the outer arm or leaf not being at an angle enabling it to maintain its hold on the hammer arm when the said outer arm or leaf is in closed position; Fig. 6 is a top view of the device with the outer leaf or arm shown as having been opened outwardly and the hammer arm as having swung to the position it takes when striking a cap; Fig. 7 is a cross-section, on a larger scale, through a portion of the device and taken on the dotted line 7—7 of Fig. 4; Fig. 8 illustrates, in perspective, one form of receptacle which may be utilized to hold the device of my invention, whether of the construction shown in Figs. 1 to 4 inclusive or the construction shown in Fig. 5; Fig. 9 is a perspective view of a very desirable form of receptacle adapted to receive the devices of my invention, the receptacle being shown with its hinged lid in open position and an interior flap thereof as being closed down upon the alarm device preparatory to the closing of the hinged lid of the box; and Fig. 10 is a vertical transverse section, on a larger scale, of the box and its contained features presented in Fig. 9, Fig. 10 showing the box as having been closed and the interior devices as set for automatic operation upon the opening of the lid of the box.

In the drawings, Fig. 5 being excepted on account of being a modification, 15 designates the general carrying base or frame of the device, 16 the outer arm or leaf, and 17 the hammer arm. The base 15 is an elongated flat plate having upwardly extending corresponding sides 18 and said base may also have an outwardly extending tongue or projection 19 apertured, if preferred, for

permitting the device as a whole to be strung upon a ring 20. The forward portions of the sides 18 are pressed inwardly on converging lines, as at 21, whereby to partly close over the base 15 and serve as means to confine the strip of paper 22 which carries the explosive substance or cap 23, as illustrated in Fig. 7, against sliding or vertical movement.

The outer arm or leaf 16 will preferably be of sheet metal and of elongated form and in one integral piece, and said arm at its outer end is bent downwardly, as shown in Figs. 1 and 2, to enter between the sides 18 and engage the upper surface of the base 15; the other end of the outer arm or leaf 16 is formed with trunnions 24 which are received in openings 25 formed in the sides 18, said trunnions and openings serving as means for hingedly connecting the outer arm or leaf 16 with the main frame of the device. The hinged end of the outer arm or leaf 16 has an angularly bent portion or heel 26 which extends, when the leaf 16 is in closed position, downwardly and slightly inwardly between the sides 18, and between the heel portion 26 and its forward downwardly curved portion said outer arm or leaf 16 is bowed upwardly, as at 27, this portion 27 preferably being, when the said arm or leaf is in closed position, slightly above the horizontal plane of the sides 18.

The hammer arm 17 is preferably formed from one integral piece of sheet metal and at one end has trunnions 28 which are received in holes or openings 29 in the sides 18, said trunnions and holes coöperating to secure the hammer arm in a hinged or pivotal manner. The arm 17 adjacent to its hinged end is preferably cut out, as at 30 (Fig. 6), leaving a bar in line with the trunnions 28 around which is applied a coiled spring 31, said spring at one end having an outwardly extending arm 32 which bears against the upper surface of the base plate and at its other end a somewhat similar arm 33 which bears against the arm 17 in a direction tending to throw said arm 17 from its set position shown in Fig. 2 to its operated position illustrated in Fig. 6. The spring 31 exerts a force against the hammer arm 17 at all times, but it will be obvious that when the hammer arm 17 is turned from its operated position shown in Fig. 6 to its preliminary or set position, illustrated in Fig. 2, said arm will wind the spring 31 and increase the tension thereof. The arm 17 at its free end has a deflected or angularly bent portion 34 which inclines downwardly and rearwardly when said arm is in its preliminary or set position, as shown in Fig. 2.

The structure as hereinbefore described comprises the base 15 having the sides 18, the hinged outer arm or leaf 16, the hammer arm 17 and spring 31, and this structure may be made use of within the purposes of my invention without other coöperating or auxiliary parts, but in many instances I shall preferably employ the structure within the receptacle shown in Figs. 9 and 10 and in a receptacle of different shape shown in Fig. 8, and I therefore will explain the operation of the device as used without the said receptacles and then explain the manner of using the same within said receptacles.

Ordinarily when the parts of the device have not been set for use, the hammer arm will be in the position in which it is shown in Fig. 6 and the outer arm or leaf 16 will be in its folded position, shown in Fig. 2. In setting the device for use the outer arm or leaf 16 will be turned outwardly into substantially horizontal position from between the sides 18, thus fully exposing the hammer arm 17 and base plate, and thereupon the hammer arm will be, by the finger or thumb of the owner, turned rearwardly from the position in which it is shown in Fig. 6 to that in which it is shown in Fig. 2, and without releasing said hammer arm the cap 23 will be placed in position between the inwardly inclined portions 21 of the sides 18, after which the outer arm or leaf 16 will be folded over the base 15 and its heel 26 will engage the inclined free end portion 34 of the hammer arm and thereby during the closing of the outer arm or leaf 16 confine the hammer arm in its set position in opposition to the force of the spring 31. After the outer arm or leaf 16 has been folded to its closed position, the device will be ready for use. I have mentioned the placing of the cap 23 in position, while the outer arm or leaf 16 is in its fully open position, but obviously the cap may conveniently be placed in position when the outer arm or leaf 16 has partly or almost wholly reached its closed position. The folding of the outer arm or leaf 16 to its closed position with the heel 26 of said arm against the free end of the hammer arm 17 or to the position shown in Fig. 2, results in the pressure exerted against said heel by said hammer arm locking the outer arm or leaf 16 in its folded or closed position, since as will be observed on reference to Fig. 2 the end of the hammer arm presses against the heel 26 in a direction to hold the arm or leaf 16 in closed position. The parts may remain in the position shown in Fig. 2, with a cap 23 below the free end of the arm of leaf 16 as long as may be desired, but when it is desired to render the device operative all that is necessary is to press lightly on the bowed portion 27 of the arm or leaf 16 so as to turn the lower edge of the heel 26 away from the free end of the arm 17, and thereupon, the hand of the user holding the arm

or leaf 16 in closed position, the hammer-arm 17 will snap upwardly against the arm or leaf 16 to the position shown in Fig. 3, and then when the arm or leaf 16 is released from the hand or from whatever may be holding it in closed position, the arm 17 will throw said arm or leaf 16 to its open position and move to its operative position shown in Fig. 6, striking and exploding the cap 23. The device when in the condition shown in Fig. 2 may be handed to a person to examine with the result that he will likely press on the bowed portion 27 of the arm or leaf 16 and cause a sudden explosion of the cap, or a person might take the device as shown in Fig. 2 and string the ring 20 on his thumb and then attempt to shake hands with a person with the device in his hand with the result that the pressure thereby created on the arm or leaf 16 will release the hammer arm to move to the position shown in Fig. 3, the then releasing or loosening of the pressure on the arm or leaf 16 resulting in an explosion. The device may be used in various ways in surprising friends. Another way of utilizing the device as a surprise would be to take it when in the position shown in Fig. 2 and slide it into a close fitting casing or receptacle 35, as shown in Fig. 8. The moving of the device into the receptacle 35 will result in the wall of the receptacle depressing the bowed portion 27 of the arm or leaf 16 and in the release thereby of the hammer arm 17 to move to the position shown in Fig. 3. The article may then be offered to a friend as a cigar cutter or cigar lighter or other device and upon his withdrawing the device from the receptacle, the hammer arm will force the leaf or outer arm 16 to its open position and said hammer arm 17 will turn to its operative position and explode the cap.

An extended use of the invention will be in receptacles having a hinged lid, as I illustrate in Figs. 9 and 10, 36 denoting the body of the receptacle, 37 the hinged cover therefor and 38 my surprise device as a whole. I provide within the body 36 a flexible flap, preferably of stiff paper, 39, this flap being capable of hinged movement and of being folded down upon the device 38. I preferably arrange the flap 39 to fold inwardly and downwardly against the device 38 from the outer edges of the body 36 and I preferably arrange the device 38 so that the outer arm or leaf 16 will extend toward the outer edges of the receptacle and so that the exploding cap will be located well below the flap 39. The flap 39 serves several purposes, one being to prevent any dust or spark from the explosion of the cap moving outwardly to the open edge of the box or receptacle when the cover 37 is turned upwardly and another being by its engagement with the cover 37 when in closed position and also with the upper surface of the arm or leaf 16, to aid in holding said arm or leaf 16 in its folded position, even though at the time the hammer-arm 17 has moved to its position shown in Fig. 3 ready for action. In securing the device 38 within the body 36 of the receptacle shown in Figs. 9 and 10, it may be arranged as shown in said Figs. 9 and 10 or it may be turned around the other way so that the free end of the closed arm or leaf 16 will project toward the hinge of the receptacle instead of toward the outer edge of said receptacle. The device when used in a receptacle having a hinged lid will be set in the manner I have hereinbefore described with reference to Figs. 2 and 3 or, in other words, the hammer-arm will be turned rearwardly upon the base plate and the outer arm or leaf 16 folded over it, and thereafter pressure will be applied upon the bow-portion of the arm 16 to release the hammer arm to move to its position shown in Fig. 3, and thereupon the flap 39 will be closed down upon the closed arm or leaf 16 and the lid of the box will be closed over the flap 39, the whole being left ready for action the moment a person invited to do so has opened the receptacle or turned the lid 37 upwardly from the body portion 36 thereof. The receptacle having a hinged lid 37 may of course vary in outline and on its exterior may represent a box for holding cigarettes or cigars or resemble in appearance a book. I regard the flap 39 as highly desirable regardless of the details of the device 38, since it aids in holding the hinged members downwardly and also aids the owner in setting the device for action upon the opening of the receptacle, and besides said flap protects the face and hand of the person who may open the box against any spark or dust which might follow the explosion of the cap.

Fig. 5 shows a modification consisting only in the outer arm or leaf, which in this instance I number 40, having a heel 41 bent at such angle as not to interlock with the free end of the hammer arm 17 so as to enable said hammer arm to releasably hold said outer arm or leaf 40 in closed position. I therefore number the parts of Fig. 5 correspondingly with those parts of other figures which are not affected by the modified construction of the arm or leaf 40. The operation of the device shown in Fig. 5 is the same as the operation of the device shown in the other figures with the exception that no pressure is required to be applied to the upper bowed portion of the arm 40 to release the hammer arm, said hammer arm at once taking its position for action as soon as the arm or leaf 40 has been moved to closed position. In the construction shown in Fig. 5 the device may be applied to the receptacle 35 or to the box having the hinged cover shown in

Figs. 9 and 10, but pressure must always be maintained on the arm or leaf 40, except when the intended explosion is to take place, or in other words the device cannot be set into the condition represented in Fig. 2 with the hammer arm holding the outer arm or leaf in closed position. The device as shown in Fig. 5 is for all practical purposes the same as the device shown in Fig. 3, in both instances the hammer arm being in position for action the moment pressure on the outer arm or leaf has been released.

I shall also apply the device to doors and the like as an alarm device and in this way utilize the same for giving an alarm to the occupant of a room in the event that any one should open the door or window thereof. There are several ways in which the device may be used in connection with doors and windows, and one way would be to have the device inserted between the door and jamb with the door when in closed position holding the outer arm or leaf 16 in its closed position and when opened releasing said arm or leaf 16, thereby freeing the hammer arm to explode the cap. There are also various other uses to which the invention may be put, but it will not be necessary to specify them.

I have described the most satisfactory form of the invention known to me, but am aware that modifications may be made in the mechanical details thereof. I therefore do not wish to limit my invention further than the appended claims may require.

What I claim as my invention and desire to secure by Letters-Patent, is:

1. In a device of the character described, a base-plate, a spring actuated hammer arm hinged thereto adapted when released to move to its operative position to explode a cap, and an outer hinged arm to be turned over said base and said hammer arm when the latter is turned to its inoperative position and having a heel flange at its hinged end adapted to engage the free end of said hammer arm, said hammer arm by its pressure against said flange acting to hold said outer arm in closed position and said outer arm then serving to hold said hammer arm in its inoperative position.

2. In a device of the character described, a base-plate, a spring actuated hammer arm hinged thereto adapted when released to move to its operative position to explode a cap, and an outer hinged arm to be turned over said base and said hammer arm when the latter is turned to its inoperative position and having a heel flange at its hinged end adapted to engage the free end of said hammer arm, said hammer arm by its pressure against said flange acting to hold said outer arm in closed position and said outer arm then serving to hold said hammer arm in its inoperative position, said outer arm also having a depressible intermediate portion serving when pressed upon to spring said flange from said hammer arm and thus allow the same to assume a position for action when confining pressure is released from said outer arm.

3. In a device of the character described, an elongated base plate having upwardly extending corresponding sides, a spring actuated hammer arm hinged between and in said sides above said base plate and adapted when released to move to its operative position to explode a cap, and an outer elongated arm hinged at its inner end between and in said sides and at its outer end being bent downwardly to enter between said sides, said outer arm being adapted to be turned over said base plate and said hammer arm and when confining pressure is released therefrom to be thrown to open position by said hammer arm moving to its operative position.

4. In an article of the character described, means to hold a cap, a spring actuated hammer arm adapted when released to move to its operative position to explode said cap, and a receptacle containing said devices and acting when closed to confine the same in their inoperative relation, said receptacle having a removable cover and containing an inner hinged flap covering over said devices.

5. In a device of the character described, a base plate having side members, a spring actuated hammer arm hinged between said side members and adapted when released to move to its operative position to explode a cap, and an outer arm hinged to said side members to be turned over said base plate and said hammer arm and when confining pressure therefrom is released to be thrown to open position by said hammer arm moving to its operative position, said side members being extended inwardly near one end to thereby afford means for confining the cap.

Signed at New York city, in the county of New York and State of New York, this 4th day of January, A. D. 1915.

JAMES L. KELLOGG.

Witnesses:
ARTHUR MARION,
CHAS. C. GILL.