

Dec. 8, 1942.

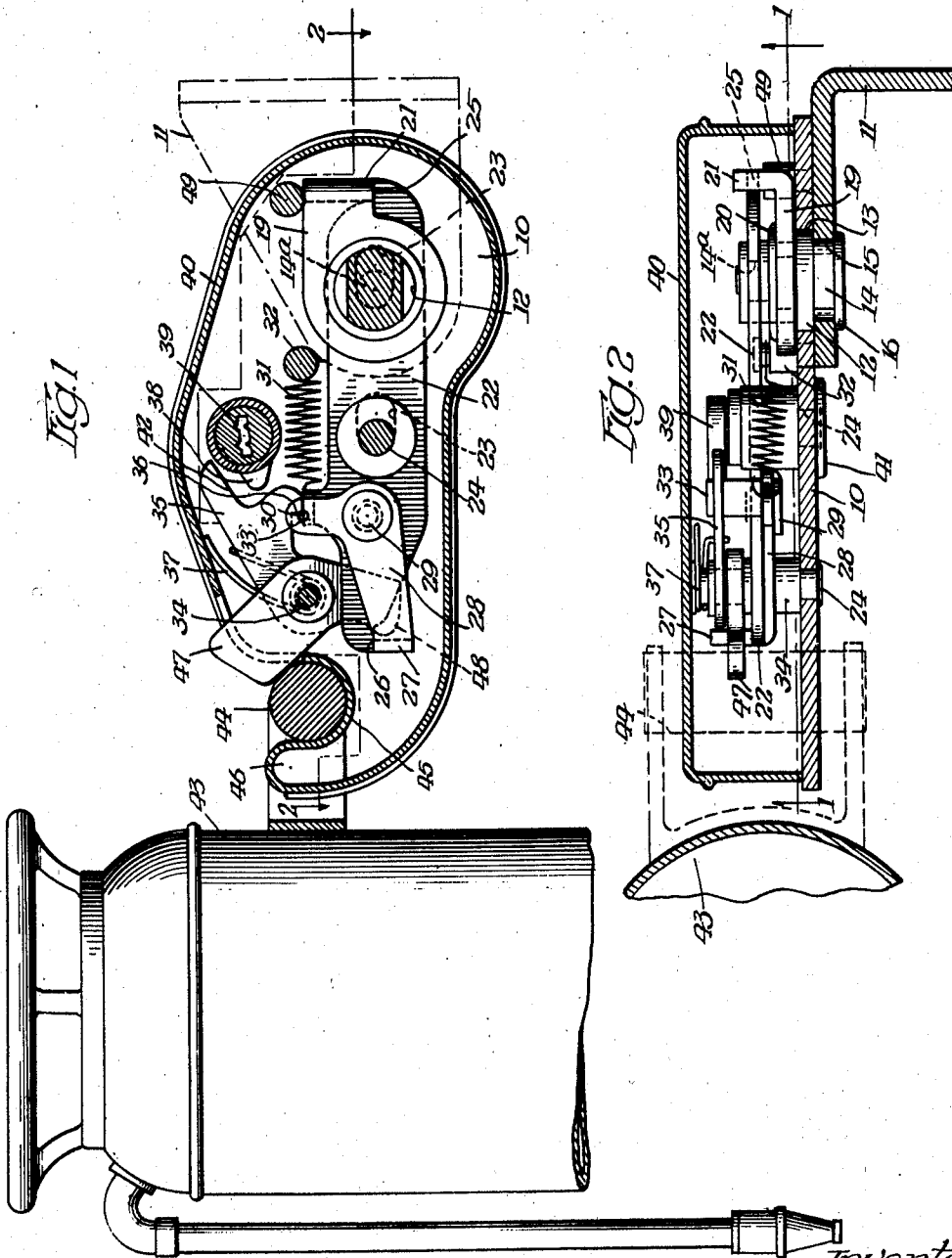
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2,304,374

SAFETY DEVICE

Filed April 20, 1942

2 Sheets-Sheet 1



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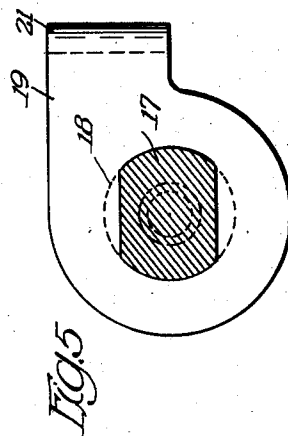
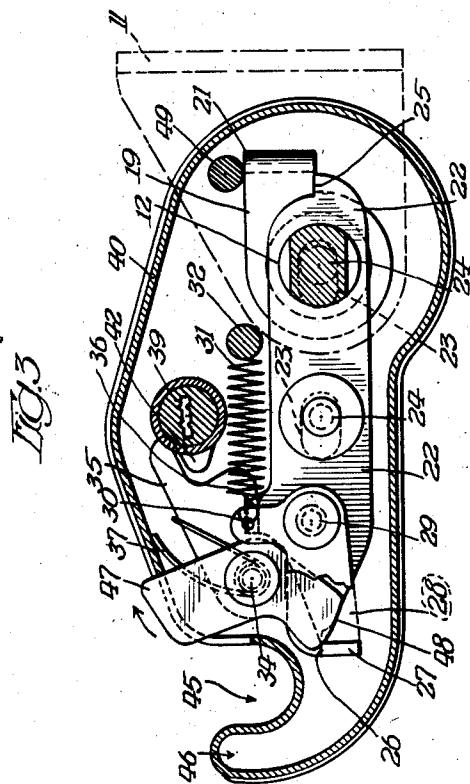
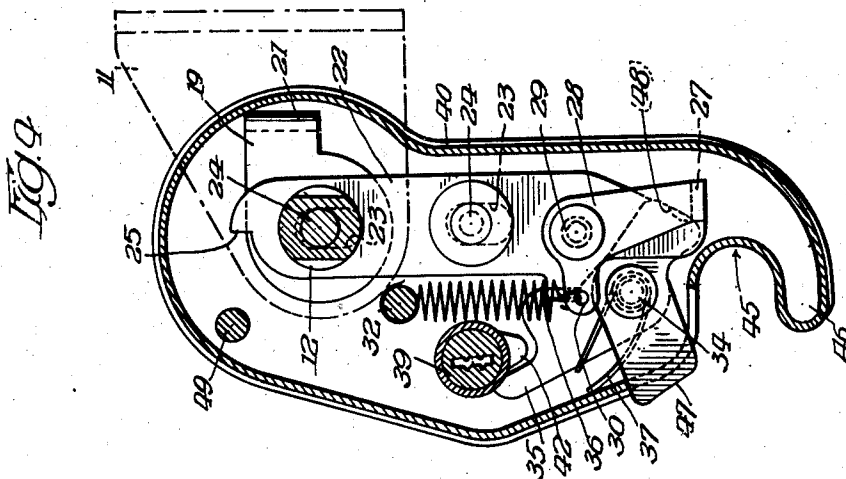
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,304,374

SAFETY DEVICE

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11 Claims. (Cl. 248-203)

Fire extinguishers are generally hung upon a wall or suitable support in a position where they will be convenient for use, and sometimes they are removed from their support and tampered with, and then put back upon the support or hanger. It is difficult to detect such acts, with the result that serious damage may result, as there is nothing to indicate that they have been tampered with until use is attempted to be made of them.

It is one of the objects of the present invention to provide an improved safety device or holder of this character which will not only maintain an extinguisher in position for use, but from which holder the extinguisher may be readily and quickly removed, and which will, when the extinguisher is removed, become locked to not only prevent the extinguisher from being replaced thereupon, but will serve as an indicator that the same has been tampered with. When the extinguisher is once removed, the holder will remain in an inoperative condition until the parts thereof are re-positioned with respect to each other by the employment of the proper key or unlocking device.

While in the present exemplification of this invention the same has been shown and will be described in connection with a fire extinguisher, it is to be understood that the invention is well adapted for equally efficient use in connection with other articles.

A further object is to provide an improved device of this character which will be of a simple, cheap, strong and compact construction, readily operable, effective and efficient in operation, and in connection with the use of which the ready and quick removal of the extinguisher from the holder or safety device, in case of emergency, will not be interfered with, and without the necessity for the use of any special unlocking means, but which will, however, require a special unlocking means to permit the replacement of the extinguisher in or upon the holder, after it has once been removed therefrom.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts, hereinafter more fully described and claimed and shown in the accompanying drawings illustrating this invention, and in which

Fig. 1 is a view partly in elevation, partly in section and with parts removed, of a safety device of this character, constructed in accordance

with the principles of this invention, and showing the parts in the position which they will assume when a fire extinguisher is placed thereupon or supported thereby.

Fig. 2 is a horizontal sectional view taken on line 2-2, Fig. 1.

Fig. 3 is a view similar to Fig. 1, showing the position some of the parts will assume when the holder is locked in position to hold the article, and so as to permit the insertion into or placing of the article upon the support or holder.

Fig. 4 is a view similar to Fig. 3, showing the position the parts will assume when the extinguisher or article has been removed from the holder, and with the parts in a locked position to prevent the holder from being replaced or moved back to a normal operating condition.

Fig. 5 is a view partly in section, partly in elevation, of a detail.

The safety device or holder consists, essentially, of a main supporting member 10 which is mounted upon a suitable support, here shown as a bracket 11, the latter when employed being secured in any desired or suitable manner to a wall or other support.

The member 10 is pivotally connected to the member or bracket 11 preferably by means of a stud or bolt, the latter preferably being provided with a rounded portion 12 intermediate its ends, and which portion 12 stands within an opening 13 in the member 10.

One end 14 of the bolt is preferably irregular in cross-section, as shown more clearly in Fig. 2, and enters a recess 15 in the support or bracket 11 so as to be maintained against rotation with respect thereto, the extremity 16 being preferably headed so as to prevent displacement.

The other end of the bolt passes through the member 10, and is also irregular in cross-section, as at 17, shown more clearly in Fig. 5, and this angular portion 17 is seated within a recess 18 in a member 19, and these parts are secured together in any suitable manner, preferably by means of a collar 20. The member 19 is provided with a laterally deflected extremity 21 for a purpose to be hereinafter set forth.

With these parts assembled, it will be manifest that as the supporting bolt is fixed against rotation with respect to the support or bracket 11, and as the member 19 is also fixed against rotation with respect to the supporting bolt, these parts will remain stationary while the member 10 may be given a pivotal movement about the portion 12.

Mounted to slide upon the member 10 is an

element 22 preferably provided with slots 23. This element may be supported by means of a bolt 24 and the end 14^a of the bolt or member 14, which project into the slots 23, thereby mounting the element upon the member 10 for bodily swinging movement therewith and for longitudinal shifting movement with respect thereto.

The element 22 is provided with a shoulder 25 at one extremity thereof, which, when the parts are in the position shown in Figs. 1 and 2, is adapted to engage under the laterally projecting end 21 of the member 19, and thereby maintain the member 10 with the element 22 in a locked position, to prevent the member 10 from swinging about its pivot 12.

The forward end of the element 22 is provided with a shoulder 26, which latter forms a stop for the end 27 of a bell crank lever or pawl 28, the latter being pivotally mounted, as at 29, upon the element 22. To the other end of the bell crank lever, as at 30, is connected one end of a spring 31, the other end of the spring being anchored, as at 32, to the member 10. The normal tendency of the spring 31 is to rock the lever or pawl 28 about its pivot 29, to cause the end 27 thereof to engage the shoulder 26 on the element 22, and thereby to hold the lever or pawl 28 yielding in this position.

The spring 31 also serves the function of tending to move the element 22 bodily in a lengthwise direction, to position the shoulder 25 so as to engage under the end 21 of the member 19, as shown more clearly in Fig. 1. At the same time, the movement of the lever or pawl 28 about its pivot 29 will not be interfered with; that is to say, when the lever or pawl 28 is moved about its pivot so that the end 27 will move away from the shoulder 26, the element 22 will remain in the position shown in Fig. 1, when the remaining parts are in the same relative position.

Carried also by the element 22 is a shoulder 33, and pivotally mounted, as at 34, upon the member 10, is a catch 35 having a shoulder 36. This catch 35 is controlled by a spring 37, and the normal tendency of the spring 37 is to move the catch in a direction that, when the shoulder 33 is in a proper position with respect thereto, the shoulder 36 on the catch will engage over the edge of the shoulder 33 and maintain the element 22 in a forward or unlocked position with respect to the end or shoulder 21 and against the stress of the spring 31.

In order to release the element 22 when it is thus locked, the catch 35 must be swung about its pivot so as to move the shoulder 36 thereof out of engagement with the edge of the shoulder 33. This may be accomplished in any desired or suitable manner, but preferably by means of a cam or member 38 which is controlled by a key-actuated device 39, the latter being accessible from the outside of a casing 40, within which all of the above-referred-to parts operate, a key-hole 41 being provided to permit the insertion of a key.

By the operation of the key, the member 38 will be brought into engagement with a shoulder 42 on the catch 35, to move it against the stress of the spring 37. When the member 38 is moved into an inoperative position with respect to the catch, the latter, under the influence of the spring 37, will move into a position so as to engage over the edge of the shoulder 33 on the element 22 when the latter is moved forwardly.

When the parts are in the position shown in

Fig. 1, the member 10 will be locked in an operative position; that is, in a position to receive the article, which, in the present exemplification of this invention, is shown as a fire extinguisher 43, having a handle 44. This handle 44 is adapted to engage in a seat 45 at the forward end 46 of the supporting member 10, and which seat may be formed as a part of the casing 40.

In order to prevent the removal of the fire extinguisher from the safety device or support, and so as to detect the fact that the same has been removed, there is provided a locking member 47 which is pivotally supported preferably upon the bolt 34 which supports the catch 35. The forward end of this member 47 is adapted to assume a position behind and in the path of movement of the handle 44 of the extinguisher 43, in its movement from the seat 45. The other end 48 of the member 47 projects behind the end 27 of the lever or pawl 28, so that as the handle 44 passes out of the seat 45 and engages the end of the member 47, the latter will be rocked about its pivot 34.

At this time, the end 48 of the member 47, being positioned behind the end 27 of the lever or pawl 28, will engage the said end and will move the element 22 forwardly against the stress of the spring 31 a sufficient distance to permit the catch 35, under the influence of the spring 37, to move in a direction that its shoulder 36 will pass behind the edge of the shoulder 33 to lock the element 22 in a forward position. That is, the element 22, having been thus moved so as to draw the shoulder 25 out of a position that it would engage the shoulder 21, the member 10 and all of the parts supported thereby, will be free to swing about the pivot 12.

A stop device 49 may be provided on any suitable support such as the member 10, to be engaged by the member 19, and thereby arrest the swinging movement of the member 10 in one direction, that is, in a position where the recess or seat 45 will be in a position to receive the handle 44 and hold the extinguisher 43 in position. As the member 47 swings about its pivot 34 to draw the element 22 forwardly, the parts will eventually assume the position as shown in Fig. 3. That is, the lower end 48 of the member 47 will engage the end 27 of the lever or pawl 28 to rock the latter about the pivot 29 against the stress of the spring 31. This will cause the end 48 to ride upon the top of the end 27 of the lever or pawl 28, as shown in Fig. 3. With the parts in this position, the entire structure will swing freely about the pivot 12.

To render the device or support active to hold the extinguisher, the support or member 10 is first moved from the position shown in Fig. 4 back to the position shown in Fig. 3. At this time, the catch 35 may be tripped by the key-actuated member 38; or, if desired, the catch 35 may be tripped before it reaches the position shown in Fig. 3. When the catch 35 is released and the parts are in position, as shown in Fig. 1, the spring 31 will move the element 22 back to a position where the shoulder 25 will engage the shoulder 21 on the member 19.

During this operation, and as the lower end 48 of the member 47 will still be in the position shown in Fig. 3, that is, resting upon the top 26 of the end 27 of the lever or pawl 28, and when the handle 44 is placed in the seat 45, in order to lock the extinguisher in position against removal, all that is necessary is to engage the end of the

member 47 with the finger and rock the same about the pivot 34, that is, from the position shown in Fig. 3 to the position shown in Fig. 1.

By thus rocking the member 47, the end 43 thereof will pass from the edge 26 of the end 27 back to the position shown in Fig. 1, that is, behind the end 27, the lever or pawl 28 yielding to permit such operation.

With this improved construction, it will be manifest that it will not be possible, after the extinguisher has once been removed, to replace it without being detected, as it will be necessary, in order to accomplish the replacing, that the catch 35 be tripped so as to render active the mechanism which holds the safety device or holder in an active position.

While the preferred form of the invention has been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:

1. A safety device of the character described, embodying a shiftable article support, means for maintaining the support in a predetermined position when an article is held thereby, means controlled by the removal of the article from the support for rendering the first said means inactive, whereby the support will shift to another position, the first recited means remaining inactive in the absence of an article upon the support, whereby the latter will be maintained against assuming a position in which it will hold an article, and additional means for rendering the second recited means active at will.

2. A safety device of the character described, embodying a shiftable article support, means for maintaining the support in a predetermined position when an article is held thereby, means controlled by the removal of the article from the support for rendering the first said means inactive, whereby the support will shift to another position, the first recited means remaining inactive in the absence of an article upon the support, whereby the latter will be maintained against assuming a position in which it will hold an article, and additional means for rendering the second recited means active at will, the last recited means embodying key controlled mechanism.

3. A safety device of the character described, embodying a shiftable article support, means for maintaining the support in a predetermined position when an article is held thereby, means controlled by the removal of the article from the support for rendering the first said means inactive, whereby the support will shift to another position, the first recited means remaining inactive in the absence of an article upon the support, whereby the latter will be maintained against assuming a position in which it will hold an article, additional means for rendering the second recited means active at will, the last recited means embodying a catch device for locking the first said means in an inactive position with respect to the support, and key actuated means for rendering the said catch device inactive at will.

4. A safety device of the character described, embodying a shiftable mounted article holder, an element mounted upon said holder for movement therewith and with respect thereto, a stationary shoulder with which said element is adapted to co-operate to lock the holder in a predetermined

position when an article is held by the latter, means tending normally to render said element active with respect to said shoulder, means controlled by the removal of an article from the holder for shifting said element with respect to said holder to render the element inactive with respect to said shoulder, locking means for maintaining said element in said inactive position, and key controlled mechanism for rendering said locking means inactive at will.

5. A safety device of the character described, embodying a shiftable mounted article holder, an element mounted upon said holder for movement therewith and with respect thereto, a stationary shoulder with which said element is adapted to co-operate to lock the holder in a predetermined position when an article is held by the latter, means tending normally to render said element active with respect to said shoulder, means controlled by the removal of an article from the holder for shifting said element with respect to said holder to render the element inactive with respect to said shoulder, locking means for maintaining said element in said inactive position, and key controlled mechanism for rendering said locking means inactive at will, the said means which is controlled by the article, embodying an element, a portion of which is engaged and moved by the article as it is being removed from said holder.

6. A safety device of the character described, embodying a shiftable mounted article holder, an element mounted upon said holder for movement therewith and with respect thereto, a stationary shoulder with which said element is adapted to cooperate to lock the holder in a predetermined position when an article is held by the latter, means tending normally to render said element active with respect to said shoulder, means controlled by the removal of an article from the holder for shifting said element with respect to said holder to render the element inactive with respect to said shoulder, locking means for maintaining said element in said inactive position, and key controlled mechanism for rendering said locking means inactive at will, the said means which is controlled by the article, embodying a pivotally mounted element, a portion of which is adapted to be positioned in the path of movement of and engaged and moved by the article as it is being removed from said holder, the last said element being also movable into an operative position independently with respect to said shiftable element when the latter is locked in an active position with respect to said shoulder.

7. A safety device of the character described, embodying a shiftable mounted article holder, an element mounted upon said holder for movement therewith and with respect thereto, a stationary shoulder with which said element is adapted to co-operate to lock the holder in a predetermined position when an article is held by the latter, means tending normally to render said element active with respect to said shoulder, means controlled by the removal of an article from the holder for shifting said element with respect to said holder to render the element inactive with respect to said shoulder, locking means for maintaining said element in said inactive position, the said locking means embodying a catch movable into and out of engagement with a portion of the said element, and key controlled means engageable with said catch for shifting the latter to unlock said element.

8. A safety device of the character described,

embodying a shiftably mounted article holder, an element mounted upon said holder for movement therewith and with respect thereto, a stationary shoulder, means tending normally to move said element with respect to said holder to engage said shoulder to maintain the holder in a predetermined position, a second element mounted upon the first said element for movement therewith and with respect thereto, an article engaging element adapted to engage the said second element for shifting the first said element into an inactive position with respect to said shoulder, a portion of the said article engaging element being adapted to be positioned in the path of movement of the article from the holder and to be shifted thereby, locking means for locking the first said element in its said inactive position, and key controlled means for rendering the said locking means inactive.

9. A safety device of the character described, embodying a shiftably mounted article holder, an element mounted upon said holder for movement therewith and with respect thereto, a stationary shoulder, means tending normally to move said element with respect to said holder to engage said shoulder to maintain the holder in a predetermined position, a second element said second element being mounted upon the first said element for movement therewith and with respect thereto, an article engaging element adapted to engage the said second element for shifting the first said element into an inactive position with respect to said shoulder, a portion of the said article engaging element being adapted to be positioned in the path of movement of the article from the holder and to be shifted thereby, locking means for locking the first said element in its said inactive position, and key controlled means for rendering the said locking means inactive, the said second element being moved with respect to the first said element by the said article engaging element, whereby the latter may be moved back into a position where it will obstruct the removal of an article from the holder, while the first said

element is maintained in its locked and effective position.

10. A safety device of the character described, embodying a shiftably mounted article holder, an element mounted upon said holder for movement therewith and with respect thereto, a stationary shoulder, means tending normally to move said element with respect to said holder to engage said shoulder to maintain the holder in a predetermined position, a second element mounted upon the first said element for movement therewith and with respect thereto, an article engaging element adapted to engage the said second element for shifting the first said element into an inactive position with respect to said shoulder, a portion of the said article engaging element being adapted to be positioned in the path of movement of the article from the holder and to be shifted thereby, locking means for locking the first said element in its said inactive position, and key controlled means for rendering the said locking means inactive, all of the aforesaid parts, with the exception of the said shoulder, being carried by and movable with the article holder.

11. A safety device of the character described, embodying a shiftably mounted article holder, an element mounted upon said holder for movement therewith and with respect thereto, a stationary shoulder with which said element is adapted to cooperate to lock the holder in a predetermined position when an article is held by the latter, means tending normally to render said element active with respect to said shoulder, means controlled by the removal of an article from the holder for shifting said element with respect to said holder to render the element inactive with respect to said shoulder, locking means for maintaining said element in said inactive position, and key controlled mechanism for rendering said locking means inactive at will, all of the aforesaid parts, with the exception of the said shoulder, being mounted upon the said holder for bodily shifting movement therewith.

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