April 27, 1948. F. S. SMITH 2,440,595

FASTENER FOR BAGS, CASES, AND OTHER CONTAINERS

Filed Dec. 15, 1944 2 Sheets-Sheet 1

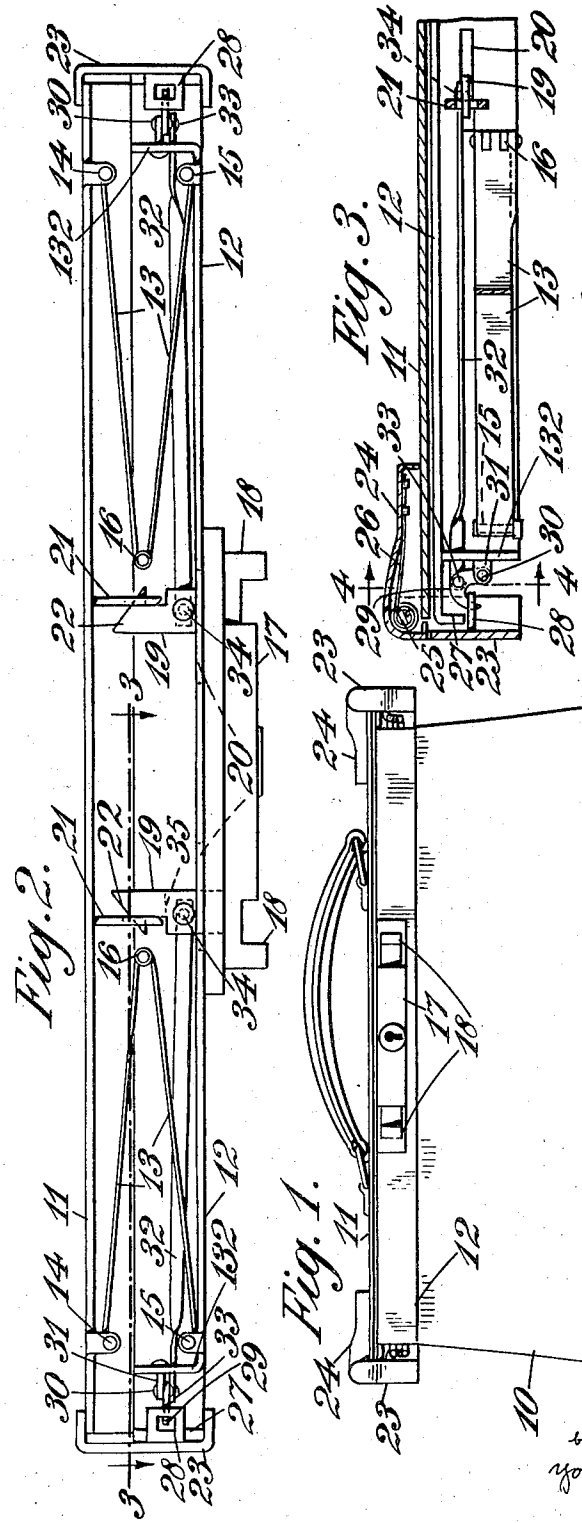


Fig. 2.

Fig. 3.

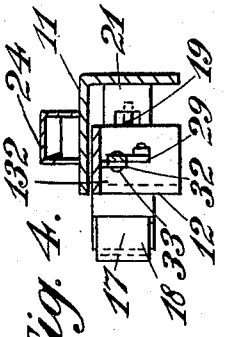


Fig. 4.

Fig. 1.

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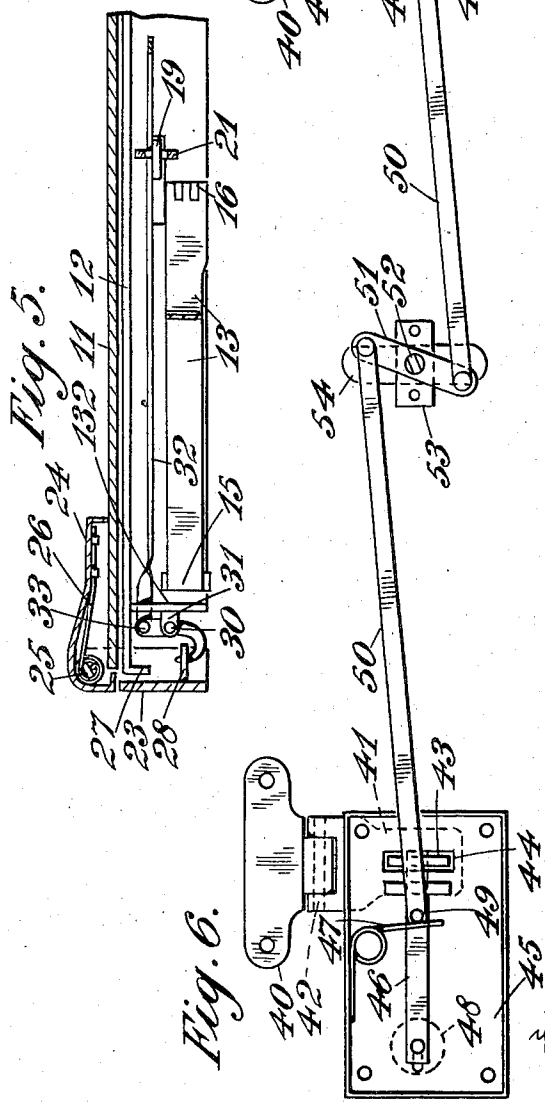


Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE

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FASTENER FOR BAGS, CASES, AND OTHER CONTAINERS

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5 Claims. (Cl. 292—25)

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This invention relates to fasteners for bags, cases and other containers of the kind which are provided with two or more spaced fasteners, and has for its object to provide an arrangement by which the bag or other container can be unfastened more simply than hitherto.

According to the present invention means for fastening a bag or other container comprises two spaced fasteners and a common operating member or pair of members operatively connected to both fasteners to unfasten them when the said member or pair of members is actuated. With this arrangement the bag or other container can be unfastened by a single actuation of the member or members instead of its being necessary to actuate each fastening separately as has been the case hitherto.

According to a feature of the invention each fastener comprises a catch which is spring-biased to move to an unfastened position in which it allows of the container being opened, and a latch for holding the catch in its fastened position, which latch is operatively connected to one operating member for operation thereby to release the catch. According to another feature of the invention a third fastener is disposed between the other two fasteners, and the operating member or members forms an integral part of the third fastener. The third fastener is preferably of the self-fastening type which automatically fastens the container when the latter is closed.

Several constructions in accordance with this invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is an elevation of a hand-bag incorporating a frame in accordance with the invention;

Figure 2 is an under-plan of the frame of the bag;

Figure 3 is a section on the line 3—3 of Figure 2 through the frame;

Figure 4 is a section on the line 4—4 of Figure 3;

Figure 5 is a detail section showing a modification of the frame, and

Figure 6 is a rear elevation of another construction applicable to boxes or cases.

The bag 10 (Figure 1) is of well-known construction and is made of a flexible material with rectangular sides, ends and bottom and with its rectangular top open and framed by a metal frame shown in Figures 2, 3 and 4. The frame comprises two metal parts 11 and 12 which are L-shaped in section and are secured to the sides

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of the open top of the bag. These frame parts are hingedly connected together in any known manner so that they can be moved together to close the bag or be separated to open the bag. As shown in Figure 2, the parts are connected at each end by a link 13 pivoted to them at its ends 14 and 15 and articulated at its mid-point 16 so that it will fold up as shown in Figure 2 when the bag is closed. The ends of the open top of the bag are secured to the links 13.

A known type of fastener 17 is mounted on the part 12 of the frame and has two operating buttons 18 slidably mounted in it and the buttons are biased by a spring, not shown, to move apart. A catch 19 projects inwardly from each button 18 through a slot 20 in the part 12 and engages in an eyelet 21 carried by the part 11 of the frame when the frame parts 11 and 12 are closed against one another. The catches 19 are formed with oppositely directed heads 22, as shown in Figure 2, which are so shaped that the catches are moved together as each head 22 engages its eyelet 21 and then spring apart into the eyelets to secure the two parts 11 and 12 of the frame together. The bag is unfastened by pressing the two operating buttons 18 together so that the catches 19 are moved towards one another and disengaged from the eyelets 21. It is usual, in this type of bag, to provide an end fastener on each end of the frame part 11 which clips over the end of the frame part 12 to hold the parts 11 and 12 of the frame together at their ends and, in prior constructions, it is necessary to release these two end fasteners before the fastener 17 is actuated to unfasten the bag so that three separate manual operations are needed to open the bag or re-fasten it securely. In the present construction both end fasteners are released automatically when the fastener 17 is actuated to unfasten the bag.

The two end fasteners are identical so only one will be described. Each comprises a catch 23 which is channel-shaped in section to embrace the ends of both frame parts 11 and 12 and hold them together. The catch 23 is pivoted in a housing 24, secured on top of the frame part 11, by means of a pin 25 secured to the catch and rotatable in the housing. A spring 26 in the housing biases the catch to swing outwardly and upwardly clear of the end 27 of the frame part 12 so that the ends of the frame parts 11 and 12 are no longer held together. An eyelet 28 is secured on the inner side of the catch 23 and a latch 29 is pivoted at 30 on a support 31 which is riveted to an inwardly turned portion 132 of

the frame part 12. When the catch 23 is engaged with the frame parts 11 and 12, as shown, to hold them together, the latch 29 is engaged with the eyelet and holds the catch in the position shown against the spring load on it. The latch 29 is shaped as shown and the eyelet 28 is disposed above the pivot 30 and moves along an arcuate path about the pin 25 when the catch 23 is swung down against the end of the frame. The eyelet will thus be moving upwardly along a line to one side of, and above, the pivot 30 when it engages the latch 29 and will cam the latch upwardly to pass beneath it whereupon the latch will hook into the eyelet.

A link 32 is articulated to each latch 29 at 33 and to the nearer catch 19 at 34 so that the catch 19 holds the latch 29 in the latching position shown. It should be noted that the movement of the latch when it snaps over and hooks into the eyelet 28 as described above is imparted to the catch 19 and moves the catch 19 and the button 18 against the spring load on the latter but this movement is insufficient to disengage the catch 19 from the eyelet 21 and the bag is not unfastened.

The bag is unfastened merely by pressing the buttons together to disengage the catches 19 from the eyelets 21. As this is done, the catches 19 move the links 32 and rock the latches 29 clear of the eyelets 28 to release the end catches 23 which are swung out and up by the spring load on them. The bag can then be opened. On closing the bag, the catches 19 will engage into the eyelets 21 and automatically fasten the bag. The fastening thus provided is not entirely secure but can be made so by closing down the end catches 23 which are automatically latched down as already described.

The construction can be adapted for use where the central fastener 17 has only one operating button 18 and one latch 19 by modifying the end fastener at one end only as shown in Figure 5. It will be seen that the latch 29 has been modified so that it rocks down instead of up to disengage itself from the eyelet 28 so that the direction in which the link is moved to release the end fastener is reversed as compared with the construction shown in Figure 2. Thus when the operating button moves to the left as does the right-hand button in Figures 1 and 2, the right-hand end fastener is arranged as shown in Figures 2 and 3 and the left-hand end fastener as shown in Figure 5 with both links 32 connected to the single catch 19 so that movement of this catch to the left releases both end fasteners. In this construction a single link 32 common to both end fasteners may be used as indicated in Figure 5. The construction shown in Figure 5 may be used at both ends of the bag when there are two catches 19, but the links 32 must then be arranged to connect each latch 29 to the catch 19 furthest from it so that the links 32 cross one another. For this reason the construction shown in Figures 2 to 4 is preferred.

The heads 22 of the catches 19 may be removed along the dotted line 35 in Figure 2 together with the eyelets 21 so that the central fastener does not operate as such but merely as means for operating the end fasteners together.

Figure 6 illustrates the application of the invention to a pair of self-fastening fasteners for a box or case. Each fastener is of known construction and comprises a part 40 secured to the lid of the box or case and having a catch 41 hinged to it at 42 and formed with an eyelet 43

to enter a slot 44 in a face-plate 45 secured on the lower part of the box; a latch 46 is mounted to slide on the back of the face plate and is biased by a spring 47 to engage in the eyelet 43 to retain the catch in the position shown against the bias of a spring, not shown, that tends to swing the catch up and away from the face-plate. The latch 46 is secured to a button 48 on the front of the face-plate and can be slid out of engagement with the eyelet 43 by manipulating this button.

A pillar 49 is mounted on each latch 46 to extend through a slot in the box and one end of a link 50 is pivoted on each pillar within the box. The other ends of the link 50 are articulated to opposite ends of a lever 51 which is centrally pivoted by a pin 52 on a plate 53 secured to the lower part of the box. The latches 46 are thus interconnected to move oppositely and manipulation of either fastener to unfasten it will also unfasten the other fastener, thus making it easier to open the case. A turn-buckle 54 may be secured on the pin 52 which is also secured to the lever 51 so that both fasteners can be unfastened by turning the turn-buckle.

I claim:

1. Means for fastening a container, comprising two spaced catches each movable between a fastened position in which it prevents the container being opened and an unfastened position in which it allows of the container being opened, a separate spring biasing each catch to move to its unfastened position, a separate latch arranged to engage and hold each catch in its fastened position, spring means biasing each latch to engage its catch and common operating means for actuating both latches together to release their catches.

2. Fastening means according to claim 1, comprising a manually operable fastener disposed between the two catches which fastener is connected to both latches to actuate them to release their catches when it is itself actuated to unfasten the container and is spring-biased to fasten the container automatically when the latter is closed and to bias the latches to engage their catches.

3. A fastener for a bag having two frame parts connected together so that they can be moved apart or together, comprising two catches mounted on one part of the frame to move each from a fastened position in which it embraces both parts of the frame to hold them closed to an unfastened position in which it permits the parts to separate, a separate spring biasing each catch to move it to its latter position, a separate latch arranged to engage and hold each catch in its fastened position, and common operating means for actuating both latches to engage or release their catches.

4. A fastener according to claim 3, comprising two additional catches carried on the same part of the frame as the latches and between them and spring-biased to move apart and engage with the other part of the frame to secure the parts together, manual means for moving the catches together to release the parts from one another and two links connecting the two additional catches, respectively, to the two latches so as to disengage them from their catches when the additional catches are moved together.

5. A fastener according to claim 3, comprising a third catch mounted on the same part of the frame as and between the latches and between them and spring-biased to move towards one end of the frame to engage with the other part

of the frame and secure the parts together, manual means for moving the third catch to disengage it from the other part of the frame, and at least one link connecting the third catch to the latches to actuate them to release their catches when the third catch is moved out of engagement with the other part of the frame.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
530,862	Teed	Dec. 11, 1894
594,759	Schnurr	Nov. 30, 1897
1,170,697	Stallings	Feb. 8, 1916
1,245,132	Tarshis et al.	Oct. 30, 1917
1,318,933	Teel	Oct. 14, 1919
2,218,683	Miller	Oct. 22, 1940

FOREIGN PATENTS

Number	Country	Date
5,391	Great Britain	Mar. 26, 1891