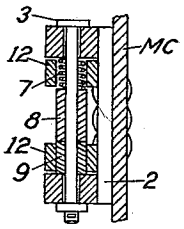
Jan. 13, 1948. F. S. CRAIG 2,434,241

MEANS FOR MOUNTING COVERS ON MECHANISM CASES

Filed Sept. 29, 1944

FIG. 5



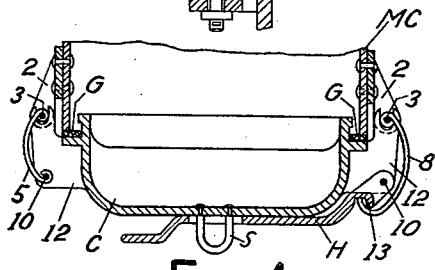
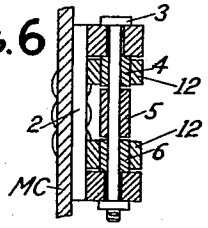


FIG. 4

FIG. 6



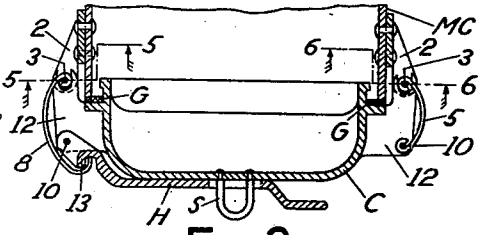


FIG. 3

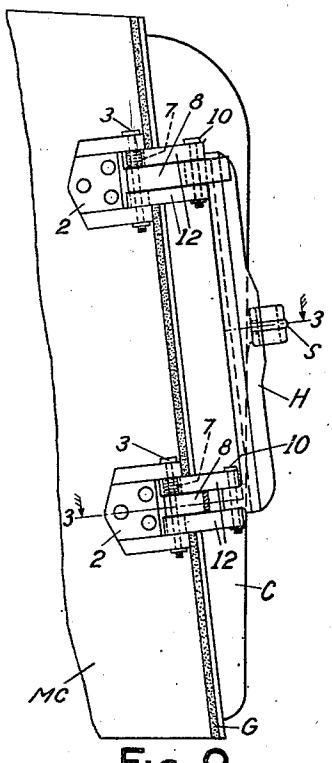


FIG. 2

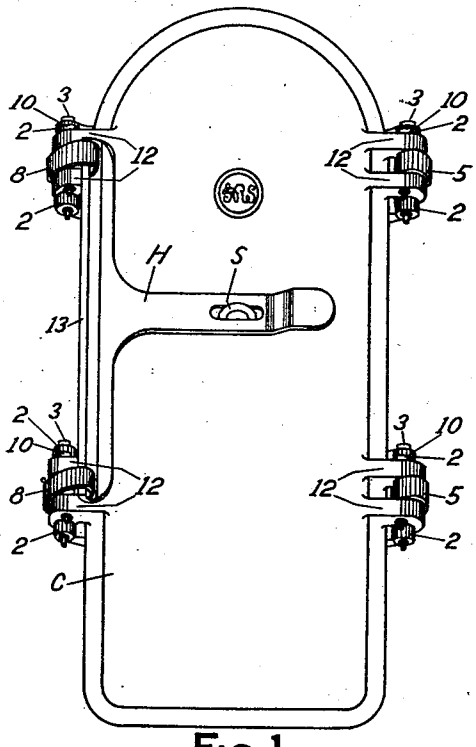


FIG. 1

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MEANS FOR MOUNTING COVERS ON MECHANISM CASES

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Application September 29, 1944, Serial No. 556,303

1 Claim. (Cl. 292—256)

1

This invention relates to fastening means for the covers of moisture proof casings, and more particularly to spring pressed hasp fasteners and hinges for giving equalized pressure between the casing and its associated cover on all sides.

One of the principal objects of the present invention is to provide spring pressed hinges in spaced relation corresponding to the spaced relation of spring pressed hasps which can be simultaneously actuated to toggle locked positions to give equalized pressures throughout the periphery of the cover for sealing the gasket between the cover and its casing.

Another object of the present invention is to provide spring hasps and hinges with proper dimensions and sufficient duplicate means as to provide for the interchangeability of the hinges and hasps to opposite sides of the cover to thereby permit the cover to be mounted to swing in either selected direction with respect to its casing.

Other objects and advantages of the present invention will appear as the description progresses and the novel features of the invention will be more particularly pointed out in the appended claim.

In describing the invention in detail, reference will be made to the accompanying drawings in which:

Fig. 1 is a front view of a cover suitably located on a mechanism casing by the spring hasps and hinges embodying the present invention;

Fig. 2 is a side view of the cover and its casing to show the spring pressed hasp mechanism of the present invention;

Fig. 3 is a sectional plan view taken on line 3—3 of Fig. 2;

Fig. 4 is a sectional view similar to Fig. 3 but illustrating the hinges and hasps as being on opposite sides of the cover to illustrate the interchangeability of the parts;

Fig. 5 is a fragmentary sectional view of one of the guide pins and the associated means when it is used to mount a hooked spring link adapted to cooperate with the hasps; and

Fig. 6 is a sectional view similar to Fig. 5, but shows a guide pin and associated means when it is employed as the pivot point of a hinge spring link.

Referring to Figs. 1 and 2, it will be seen that a cover plate C is mounted to enclose a mechanism casing MC with an intervening gasket G. This gasket G surrounds the entire periphery of the cover and provides a moisture proof seal when the cover C is pressed in position. Referring to the sectional view of Fig. 3, it can be seen how the gasket G is mounted on a protruding ledge of the cover and against an inner wall.

A guide pin support member 2 is riveted to the casing MC at each of four points as shown in this embodiment of the invention. There is a

2

pair of these supports 2 at equally spaced positions on each side of the casing.

A guide pin 3 is adapted to be received through suitable holes in the protruding lugs of each support 2 and this guide pin 3 can be suitably fastened into position by washers and cotter keys as seen in Fig. 2. Referring to Fig. 6, it can be seen that the guide pin 3, when used on the hinged side of the cover, passes through a bushing 4, a hinge spring link 5 and another bushing 6. In other words, the hinge spring links 5 on the right-hand side of the cover as seen in Fig. 1 are pivotally supported on their respective guide pins on that side of the casing. These hinge spring links 5 are thus held in central positions on their respective guide pins 3 by bushings 4 and 5.

Upper and lower guide lugs 12 on each side of the cover C are separated with the same spacing as their corresponding support members 2 on that side of the casing. Each of these guide lugs 12 have two extending portions which have receiving slots adapted to receive the respective guide pins and their bushings. As seen in Figs. 3, 4, 5 and 6, these slots are sufficiently wide as to receive not only the pin but the bushings 4 and 6 which center the hinge spring links, and similarly pass over the spring 7 and bushing 9 used on the hook side of the casing.

On the left side of the casing seen in Fig. 1, the hooked spring links 8 are respectively received by the guide pins 3 and are held in central positions on such guide pins by reason of the coil springs 7 and the bushings 9 (see Fig. 5). The coil springs 7 act to cause a slight amount of friction with respect to the movement of the respective hooked spring links 8 so that they will remain in the positions to which they are moved when they are not engaged in pressing the cover into position.

The portion of each guide lug 12 adjacent the cover is adapted to receive a pivot pin 10. On the hinge side of the cover, these pivot pins 10 act as the pivot points on the hinge spring links 5, but on the opposite side of the cover they act to pivotally support one end of the hasp H (see Fig. 3).

This hasp H has a free end which can be moved to an open position so that its U-shaped hook receiving portion 13 can engage the hooked spring links 8 as seen in Fig. 3, and then be moved to a closed position so as to create a toggle relation between the hook pivot point on the guide pin 2 and the pivot point 10 of the hasp H. In this way, tension is placed on the hooked spring links 8 corresponding to the tension placed on the hinge spring links 5 so that the cover C is pressed against the mechanism casing MC with equal force throughout the periphery of the cover.

It should also be noticed with reference to Fig.

3, that when the cover is pressed into position by reason of the resiliency of the spring links 5 and 8, that the guide pins 3 do not seat at the base or bottom of the slots in the guide lugs 12, and for this reason the cover is wholly held against its mechanism casing with the intervening gasket G by reason of the pressure supplied by the spring links 5 and 8. On the other hand, when the hasp H is moved to its open position and the hooked spring links 8 are disengaged, the cover C swings outward on the left-hand side as seen in Fig. 3. As this occurs, the pressure against the gasket G on the right-hand side is relieved, and the hinge springs 5 press the cover toward the guide pins 3 so that the base of the slots in the guide lugs 12 contact the bushings 4 and 6 on the guide pins 3 and thus serve to provide the hinge pivot points. In other words, the guide lugs 12 with their slotted extending portions have the dual purpose of guiding the cover into position and acting as the hinge pivot points when the cover C is swung outwardly.

It will be readily appreciated that the removal of the guide pins 3 and the pivot pins 10 will permit the hinge spring links 5 to be transferred to the left-hand side of the casing; while the hooked spring links 8 may be transferred to the right-hand side of the casing (see Fig. 4). Also, the hasp H should be pivoted by the pivot pins 10 on the right-hand side of the cover instead of on the left-hand side. With reference to Figs. 5 and 6 it will be seen that the springs 7 (shown in Fig. 2 as being on the left-hand side of the casing) should be transferred to the right-hand side of the casing with the hooked spring links 8, and the bushings 4 are transferred to the left-hand side of the casing with the hinge spring links 5. Since the staple S is located on the center line of the cover, the free end of the hasp H cooperates therewith regardless of whether the hasp is pivoted at the left or the right-hand side of the casing. In this way, the fastening organization of the present invention not only accomplishes the functional purposes of such a fastening organization, but also is adaptable to provide for the interchangeability of the parts in a way that the cover C may be hinged to swing from either side as desired.

It is also seen that the slotted guide lugs 12 are slightly moved away from the guide pins 3 on the hinge side as the cover C is being closed, and when the hasp H by reason of its U-shaped portion 13 grasps the open hooks of the members 8, pressure is evenly applied on both of the locking spring links at the same time, thus causing the proper cooperation and even distribution of pressure on the cover thereby eliminating any possibility of a tilting of the cover out of its normal range of closing movement so that the guide lugs 12 properly and evenly align with their respective support members 2 and guide pin assemblies. In other words, the simultaneous operation of the pair of locking spring toggle means on the opening side of the door, readily cooperates to uniformly control the swinging and closure of the door so that even pressure on the hinge spring links 5 is obtained during such operation.

It should be appreciated that the present invention may be applied to various types of covers and mechanism casings, and it may be desirable to provide three hinges and three locking springs on opposite sides of the cover and casing, or other combinations of hinges and locking springs may be employed and still embody the principles of the present invention. However, in order to provide for the interchangeability of parts to reverse the direction in which the cover is swung, it is necessary that a corresponding number of hinges and locking springs be provided on opposite sides of the door and in correspondingly spaced relationships. Although it is preferable to employ a single hasp to act on all of the locking springs for reasons described above, it may be desirable in some applications of the invention to use a separate hasp for each locking spring.

Although only one specific form has been shown and described as embodying the present invention, it should be understood that various forms and modifications may be made to the particular embodiment without in any way departing from the spirit and scope of the present invention except as limited by the appended claim.

What I claim is:

In an organization providing interchangeable hinging and fastening means for a non-symmetrical cover asociated with a mechanism casing of corresponding symmetry, a pair of spaced guide pins attached to each side of the mechanism casing, a pair of correspondingly spaced slotted guide lugs on each side of the cover and adapted to receive said guide pins within their respective slots for centering the cover with respect to the casing but said slots being sufficiently deep so that the guide pins do not rest in the base of the slots when said cover is in a closed position, a pair of hinge spring links adapted to be received by the respective guide pins on either selected side of said casing and pivotally attached to said cover on that side, a pair of locking spring links adapted to be received by the respective guide pins on either selected side of said casing but located on that side opposite to the side selected for said hinge links, said locking spring links having open ended hooks, a hasp member adapted at one end to be pivotally attached on either selected side of said cover but located on that side selected for said locking spring links, said hasp member having means at one side of its pivot point to receive said open ended hooks of said locking spring links to give a toggle action to said hasp member when moved to a closed position, and a single staple located at the center of said cover and adapted to receive the free end of the hasp member when it is in a closed position regardless of the side of the cover selected for its mounting, whereby said cover is held in a closed position by both pairs of spring links when the hasp member is in a closed position but when the hasp member is in an open position the hinge spring links act to cause the slotted lugs to seat on said guide pins and act as hinge members throughout the limits of the swinging movement of said cover, and whereby the parts forming the hinging and fastening organization are interchangeable from one side of the cover and casing to the opposite side so as to provide for hinging the cover for opening in the desired direction.

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