Feb. 12, 1924. 1,483,855

J. E. STEPHENSON

HASP FASTENER

Filed May 23, 1921 2 Sheets-Sheet 1

FIG. 1.

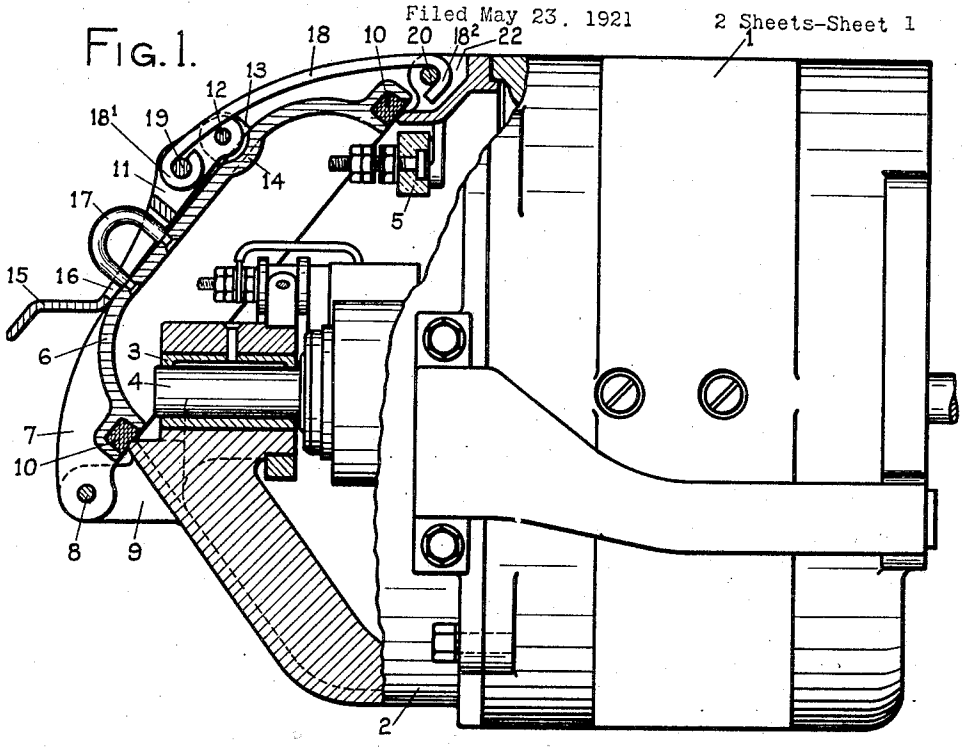
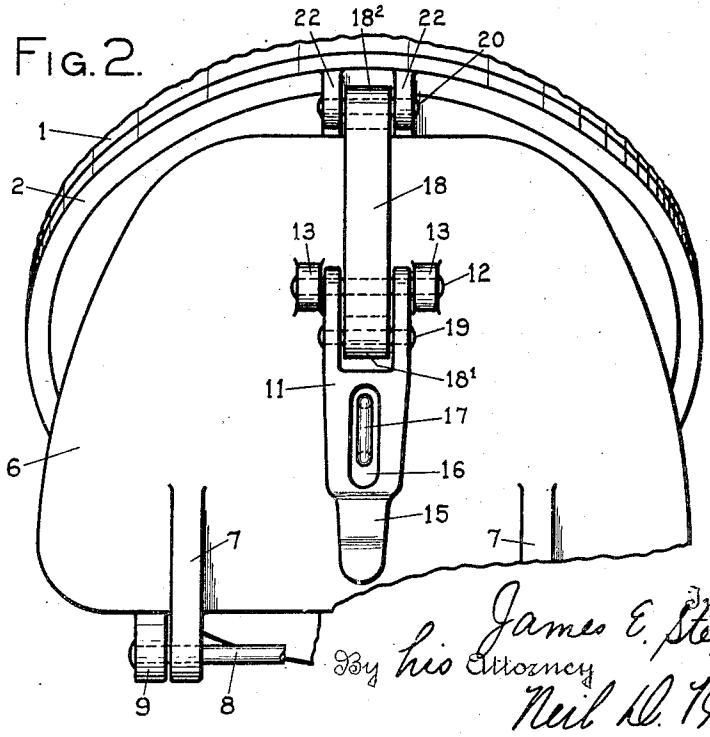


FIG. 2.



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By his Attorney
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Filed May 23, 1921. 2 Sheets-Sheet 2

FIG. 3.

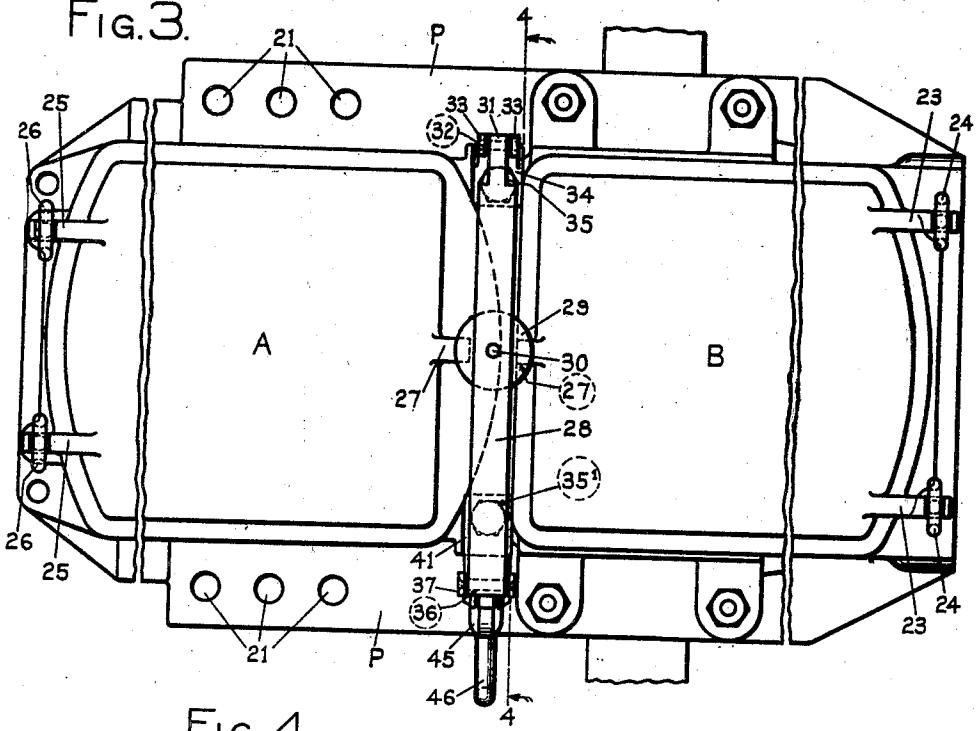


FIG. 4.

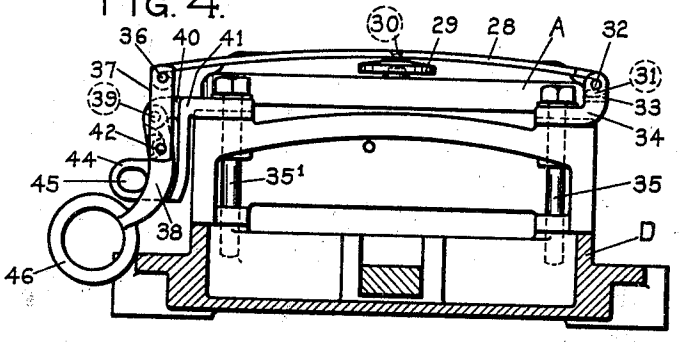
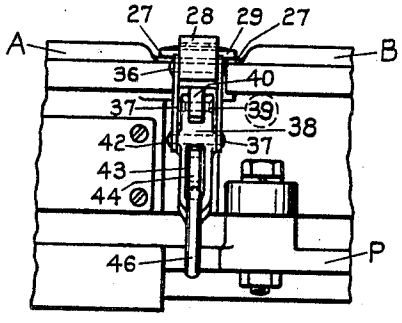


FIG. 5.



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Patented Feb. 12, 1924. 1,483,855

UNITED STATES PATENT OFFICE.

JAMES E. STEPHENSON, OF ROCHESTER, NEW YORK, ASSIGNOR TO GENERAL RAILWAY SIGNAL COMPANY, OF GATES, NEW YORK, A CORPORATION OF NEW YORK.

HASP FASTENER.

Application filed May 23, 1921. Serial No. 471,843.

To all whom it may concern:

Be it known that I, JAMES E. STEPHENSON, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Hasp Fasteners, of which the following is a specification.

This invention relates to fastening means for the covers of moisture-proof casings, more particularly mechanism casings containing electrical or similar devices that should be protected from moisture, gas, and other destructive agencies.

One of the principal objects of this invention is to provide a spring-pressed hasp fastener which will force the cover down in place, and is so constructed that it is entirely out of the way when not in its operative position.

Another object of the invention is to construct a spring hasp fastener in which the hasp member is securely pivoted so that upon opening the hasp the same will not fly away from the casing and thereby be dangerous to operate.

Another object of the invention is to construct a spring-pressed quick detachable hasp fastener which is adapted to hold a plurality of covers resiliently over their respective openings.

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

In describing the invention in detail, reference is made to the accompanying drawings, in which—

Figure 1 is a side view of a casing or housing for a motor, said casing being partly broken away, and shows a hasp fastener embodying the invention used in connection with a hinged cover for the motor housing;

Fig. 2 is an end view of the device shown in Fig. 1;

Fig. 3 is a plan view of a switch machine casing and shows the fastener used for fastening two covers in place;

Fig. 4 is a vertical transverse section through the switch machine casing shown in Fig. 3, viewed in the direction of the arrows;

Fig. 5 is a fragmentary side elevation of the device shown in Fig. 3 which shows more particularly the links connecting the hasp member with the curved spring link.

Referring to Figs. 1 and 2, the hasp fastener constituting the present invention has been shown applied to the hinged cover of an enclosed electric motor. This motor and its housing may be of any suitable construction, and as shown comprises a frame 1, with an end cap 2 having a bearing 3 for supporting the armature shaft 4. This motor has the usual commutator, brushes, brush holder and a terminal board 5. To the end cap 2 is hinged a cover 6 arranged to be swung back to give access to the commutator and the motor. This cover is provided with a pair of integral lugs 7 mounted on a rod 8 riveted in two lugs 9 integral with the end cap. Around the edges of the cover on its underside is a continuous groove containing a suitable gasket 10 which bears on the edges of the opening in the end cap when the cover is in place.

The hasp fastener embodying the present invention comprises a hasp member 11 having a bifurcated end which is pivotally supported on a pin 12 riveted or otherwise suitably fastened in a pair of lugs 13 projecting from the cover, the surface of the cover being slightly depressed under said pin, as shown at 14 in Fig. 1, to provide the desired clearance. The other end of the hasp member 11 extends outwardly away from the cover to form a convenient handle 15. The intermediate portion of the hasp member 11 is provided with a slot 16 to receive a staple or bolt 17 which is riveted or otherwise suitably fastened to the cover.

A curved bar or link 18 of spring material is curled at one end to form an eye 18^1, and in this eye is a pin 19 which is riveted or otherwise fastened to the bifurcations of the hasp member. The other end of the link 18 is formed with a hook 18^2 detachably connected to the motor frame or housing. In the particular construction illustrated, the motor frame is formed with a pair of spaced lugs 22 in which is fastened a pin 20 adapted to engage the hook 18^2 of the link.

Referring to Fig. 1, which shows the cover secured in place by the hasp fastener, it will be noted that the hasp member 11 and link 18 constitute what may be termed a toggle joint, and when the hasp member 11 bears against the cover, the line join-

ing the pins 20 and 19 at the opposite ends of the link, is between the cover 6 and the pivot axis of the hasp member 11, so that the parts are maintained in a stable position to hold the cover in place. The link 18, being curved and resilient, tends to contract and force the cover 6 down and make a tight joint between gasket 10 and the edges of the opening. In this way my improved hasp fastener not only serves to retain the cover in place, but also acts to force the cover down and maintain a tight joint, regardless of small inaccuracies occuring in manufacture and the variations due to wear and use. The hasp member 11 may be fastened by a padlock or the like passed through the staple 17.

The hasp fastener is released by pulling up the hasp member 11 until the line between the pins 20 and 19 at the ends of the link comes outside of the pivot axis of the hasp member, whereupon the tension of the link 18, together with the resiliency of the gasket 10 forces up the cover, and in some instances throws the hasp member back. It will be noted that the hasp member 11 is connected to the cover, however, so that it is not likely to strike the person operating the fastener. After the hasp member 11 has been swung up, the hook 18^2 at the end of the link 18 may be disengaged from the pin 20, and the cover, together with the entire fastener may be swung down out of the way to give free access to the motor housing. To fasten the cover again, the hook 18^2 at the end of the link 18 is hooked over the pin 20 and then the hasp member is forced down toward the cover to the position shown in Fig. 1.

In Fig. 3 I have shown my improved hasp fastener used for fastening down the covers of two adjacent compartments or mechanism casings. This specific construction illustrated is adapted for a particular kind of switch machine used for operating the switch points of railway switches. This switch machine comprises, in general, a base plate P, provided with holes 21 for receiving lag screws or the like for attaching the base plate to ties or other suitable foundation. The mechanism of the switch machine is supported and enclosed in two box-like compartments bolted to the base plate and provided with covers A and B. Each cover is formed with a continuous groove on the underside containing a gasket for making a tight joint with the upper edges of the compartments, substantially as the cover shown in Fig. 1. One cover B is formed at one end (the righthand end as shown in Fig. 3) with integral lugs 23 arranged to fit in eye bolts 24 fixed to the base plate P. The other cover A is provided at one end (the left hand end as shown in Fig. 3) with two projecting lugs 25 arranged to fit in two other fixed eye bolts 26. The adjacent ends of the two covers are formed with aligned projecting lugs 27.

In the embodiment of the invention shown in Fig. 3, the curved link 28 extends crosswise of the mechanism casing at the adjacent ends of the two covers A and B, and a button or disk 29 is loosely fastened to the underside of said curved link by a headed pin 30 riveted to said link, said disk being disposed to bear against the two projecting lugs 27 of the two covers. One end of this link 28 is formed with a hook 31 adapted to engage a pin 32 secured in a pair of ears 33 integral with a bracket 34 which is fastened by a bolt 35. The other end of the link 28 is formed with an eye which receives a pin 36 connected to the upper end of a pair of short links 37. The hasp member 38 is bifurcated, and riveted in these bifurcations is a pin 39 fitted in a hole in a projecting lug 40 integral with a retaining bracket 41, which is fastened by a bolt 35^1. The short links 37 are pivotally connected at their lower ends to an intermediate point in the hasp member 38 by a pin 42. The hasp member 38 is formed with a slot 43 to receive a perforated extension 44 integral with the retaining bracket 41. By passing a padlock through the perforation 45 of said extension, the hasp member 38 may be locked down. The hasp member 38 is preferably provided at its lower end with a ring 46 for facilitating its manipulation.

When the hasp member 38 is forced down to the position shown in Fig. 4, the curved link 28 is depressed at one end, and since the other end is anchored by the pin 32, the disk 29 is forced down against the lugs 27 on the two covers A and B, thereby pressing the covers tightly down over the openings. In this embodiment of the invention there is substantially the same toggle joint arrangement as shown and described in Figs. 1 and 2. The disk 29 is loosely connected to the link 28 and may tilt to transmit the same pressure to each of the lugs 27 on the covers, although one of these lugs may be higher than the other with the two covers closed tight.

Although I have particularly shown and described several specific embodiments of my invention; nevertheless, I desire to have it understood that the forms selected are merely illustrative and do not exhaust the possible physical embodiments of the ideas and means underlying my invention.

What I claim is:—

1. In a moisture-proof mechanism casing, a casing provided with adjacent openings, covers for the openings provided on their adjacent ends with alined lugs, and resilient means engaging said lugs to hold the covers to the casing.

2. In a mechanism casing, the combination with a cover, of means for fastening and pressing down the cover on the casing comprising, a hasp member pivotally connected at one end to the casing, and a spring link detachably connected at one end to the casing and operatively connected at its other end to the hasp member.

3. In a fastening device for fastening and pressing down the covers on mechanism casings, a spring link adapted to press on the cover and detachably connected at one end to the casing at one side of the cover, and a hasp member pivotally connected to the casing on the opposite side of the cover and operatively connected to the other end of the link, said hasp member and link having a toggle relation to hold the cover in place pressed down by the resiliency of the link.

4. A fastening device for fastening down covers of mechanism casings comprising, a lever having a handle and pivotally connected at its end to the casing, a curved resilient link pivotally connected at one end to said lever at a point between the handle and the pivotal support, said link having a hook at the other end, and means on the casing with which the hook end of the link may be detachably connected.

5. In a moisture-proof enclosure, the combination of a casing having a plurality of openings, a cover for each of said openings, each cover having a projecting lug, and means for yieldingly forcing said covers in place comprising a link, means tiltably fastened to said link and engaging said lugs, and toggle means for actuating said link to its operative position and for maintaining it in such position.

6. In a moisture-proof enclosure, the combination of a casing, a cover, spaced lugs extending from said casing, a cross pin connecting said lugs, and means for urging said cover against the casing comprising, a lever having its one end bifurcated, a pin connecting the bifurcated ends of said lever, and a spring link forming an operative connection between said lever and cross pin, said link having a hook at one end whereby it may be readily disconnected.

7. A fastening device for fastening down covers of mechanism enclosures comprising, a hasp lever having a hasp opening and a handle and pivotally supported at its end, a spring link connected to said lever at a point between the handle and its pivot to form a toggle connection, and means extending from said enclosure through the opening of said hasp lever when said lever is in its operative position for locking the lever in such position.

8. A closure fastener comprising a spring link having a hook at one end and an eye at the other, means tiltably fastened at an intermediate point to said link, and a hasp lever connected in the eye of said link in a manner to form a toggle connection when said lever is in its operative position.

In testimony whereof I affix my signature.

JAMES E. STEPHENSON.