

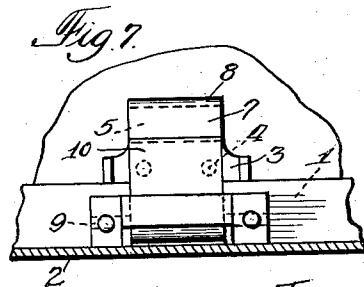
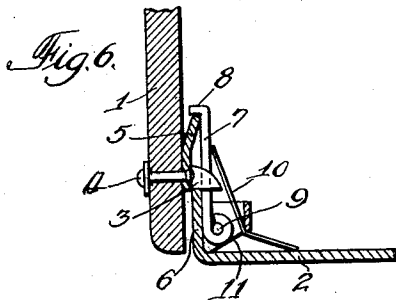
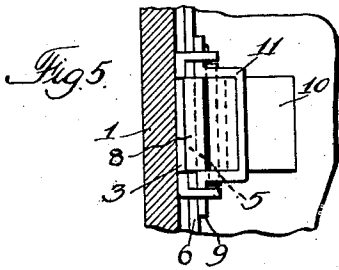
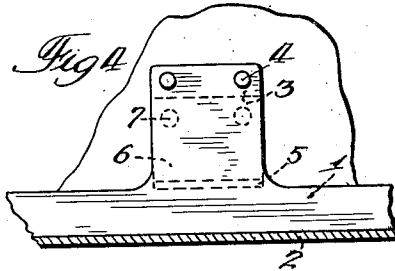
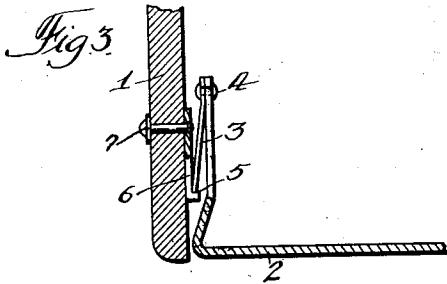
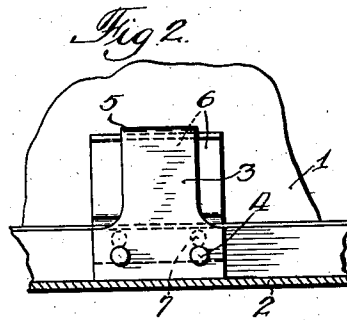
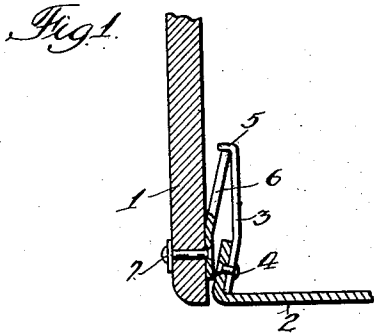
June 2, 1931.

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1,807,910

COVER CLOSURE

Filed Feb. 1, 1928 3 Sheets-Sheet 1



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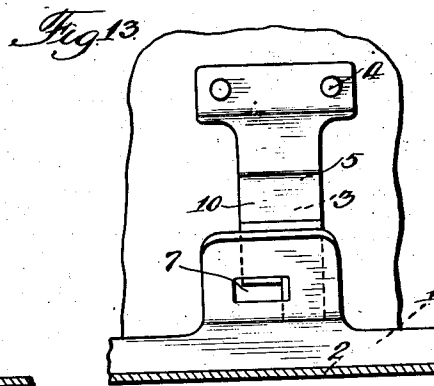
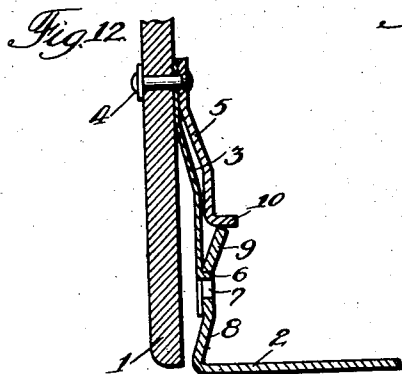
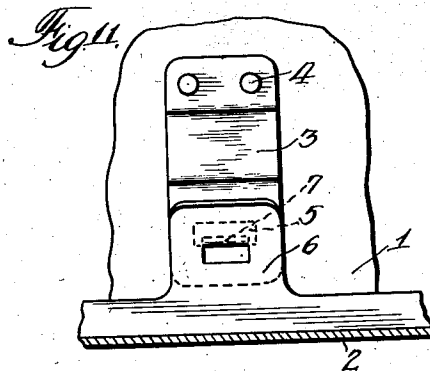
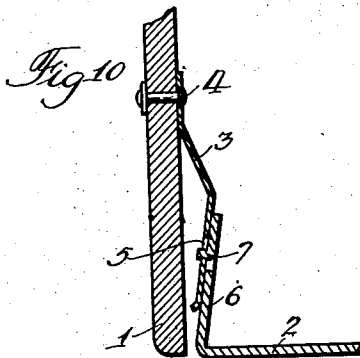
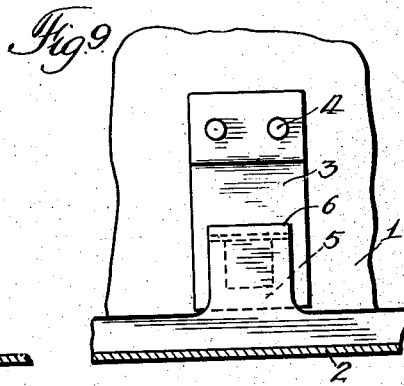
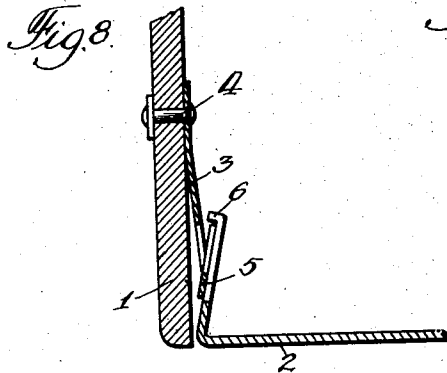
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COVER CLOSURE

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3 Sheets-Sheet 2



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1,807,910

COVER CLOSURE

Filed Feb. 1, 1928 3 Sheets-Sheet 3

Fig. 14

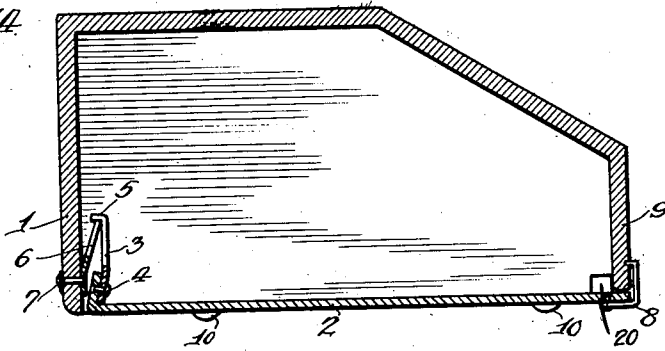


Fig. 15

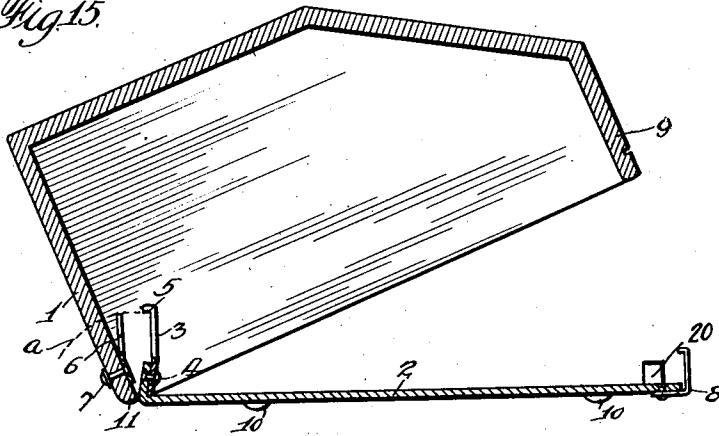
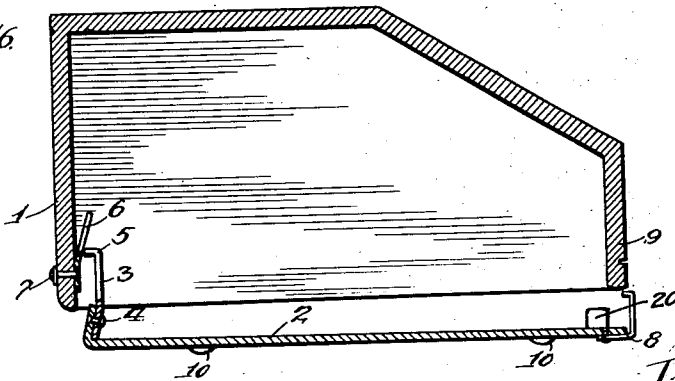


Fig. 16



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UNITED STATES PATENT OFFICE

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COVER CLOSURE

Application filed February 1, 1928. Serial No. 251,027.

The present invention relates to an improved form of spring fastener that serves to replace the usual hinges on containers, and may also serve as the fastener per se, and is especially applicable to containers employed as carrying cases for portable typewriters, adding machines, or similar devices, in which it is desirable to have means for rapidly adjusting the cover, and which will also permit of complete removal of the cover when the front catch or lock of the cover is released.

In its broadest aspects, the spring fastener that forms the subject matter of the present invention comprises some resilient means causing the engagement of a suitable projection on either the cover, or the base over which the cover fits, with resilient means located on the cover or base, as the case may be; the essential feature being the creation, by such engagement, of an element that performs the functions of a separable hinge, so that, when the cover of the container provided with the device of the present invention is tilted backwardly, it will automatically cause the disengagement of the two parts forming the hinge, so that the cover may be lifted off and stored separately from the base of the container.

Devices which do not have the resilient engaging means of the present invention, can only be made to act as hinges when the projections engaging the slots, or similar means for co-acting with hooks and the like on the container proper, are carefully aligned and the cover then equally carefully swung down until the front lock or snap engages. This requires locking at the back of the base of the container, usually behind a typewriter or adding machine, and is not only awkward, but also slow and tedious, and in many cases improper adjustment of the component parts of such substitutes for hinges will lead to damage to the parts, or else the cover will not be held properly and come off in carrying the device, thus injuring the typewriter or other machine attached to the base of the container.

The present invention avoids these difficulties by providing positive and simple means for forming what amounts in its func-

tion to a hinge on one interior wall of a box-like container that is adapted to slip down over a machine mounted on a suitable base; all of which will become clear and evident by the description and drawings of the present application.

As there are a number of equivalent ways of carrying out the present invention, some of these ways have been illustrated upon the drawings attached to and forming a part of the present application. In these figures:

Figs. 1, 3, 6, 8, 10 and 12 are sectional elevational views of various exemplifications of the present invention;

Figs. 2, 4, 7, 9, 11 and 13 are elevational views (from the back of the devices as attached to the container covers) of the same devices;

Fig. 5 is a top view of the device illustrated in Figs. 6 and 7;

Fig. 14 is a sectional elevational view illustrative of the general method of applying the devices of this invention, showing the container cover in the closed position;

Fig. 15 shows the cover tilted backwards, where it will be noticed that the spring and projection are out of engagement by reason of the tilting; and

Fig. 16 shows the method of replacing the cover on the base.

Referring to Fig. 1, which shows one method of carrying out the present invention, it will be seen that the base 2 is provided with a resilient flat leaf or spring 3 fastened to the said base 2 by a bolt or rivet 4. This spring-leaf is bent at right angles near the top thereof 5. The back 1 of the cover is provided with a slightly bent sheet of metal or the like 6, fastened rigidly to the cover 1 by suitable bolts 7. Fig. 2 shows a rear view of the identical parts.

When the cover is placed over the base 2, the projecting metallic member 6 will cause the resilient leaf-spring 3 to give way sufficiently to permit the member 6 to slide past the projection 5, and when the cover is sufficiently far down the said projection 5 will spring back into its normal position and will engage the upper end of the projection 6, thus preventing the cover from being removed.

Further downward movement of the cover may be prevented by abutment of the lower edge of the member 6 against the inclined outer surface of the upwardly turned flange at the rear edge of the base 2, as shown, or by supplemental limiting means such as are hereinafter described in connection with Fig. 6. The method of removal of the cover will be described conjointly with the Figs. 14, 15 and 16 hereinbelow.

Referring to Figs. 3 and 4, these show another way of attaching the resilient member and retaining member, the projecting end of the spring in this case being at the lower end of the spring. For all intents and purposes the arrangement is the same as that shown in Figs. 1 and 2, and the action is practically the same. Similar numbers refer to parts performing similar functions, and it is believed that a perusal of the figures, in view of what has been said in connection with Figs. 1 and 2 will suffice for an understanding of the construction shown in the modification illustrated by said Figs. 3 and 4.

Figs. 5, 6 and 7 all refer to one particular modification of the improved device that is the subject of the present invention. Fig. 5 is a top view of the structure shown in sectional elevation in Fig. 6. In this modification the back 1 of the cover is provided with an angular or channel-shaped member 3 fastened to the cover 1 by bolts 4. This member also serves to hold, or is made integral with a projecting retaining member 5. The base 2 of the said container is provided with an upward projection 6 integral therewith and also with an upwardly projecting pivoted clip 7 bent at right angles at the upper end 8 thereof, and pivoted on a suitable pin 9. The said clip 7 is forced against the projection 6 of the base 2 by a resilient strip of material or spring 10 which is held in contact with said clip 7 and the base 2 by a bent rod or retainer 11 so that it will at all times exert sufficient pressure against the clip 7.

It will be noted that the downward movement of the cover back 1 is limited by the contact of the projecting lug 3 against the upper surface of the upward projecting portion 6 of the base 2 and that the removal of the said cover 1 is prevented by the projection 8 on the clip 7 engaging the upper end of the strip 5. However, when the cover is raised, as will be more fully described in connection with Figs. 13, 14 and 15 hereinafter, the member 5 will rotate about and from under the projection 8 and will therefore permit the cover to be raised. In replacing the cover, the projection 5 will force back the projection 8 by virtue of the resilience of the spring 10 and as soon as the said projection 5 has passed the projection 8 the latter will snap back into place.

A still further modification of the device constructed in accordance with the present

invention is shown in elevation and section in Fig. 8 and in rear view in Fig. 9, both of these figures referring to the same modification.

In this case, the back 1 of the cover is provided with a spring 3 held to said cover by bolts 4 and which spring is so bent at the lower end 5 thereof so as to be capable of engaging the projection 6 which is formed by prolonging upwardly a part of the base 2.

The said spring 3 with its projection 5 tends to move outwardly from the cover back 1 so that when the cover is pushed down over the base 2 the upper part of the projection 5 of the said spring will snap into, and engage the projection 6 which is located on the upper extension of the base 2 and will therefore prevent the removal of the said cover. The downward movement of the cover 1 is prevented by suitable projections upon the periphery of the said cover and which are not shown herein.

Referring to Figs. 10 and 11, which show still a further modification of the present invention, it will be noticed that in this case there is provided upon the back wall of the cover 1, a spring 3 attached to said cover 1 by bolts 4, the spring being in the form of a bent flat leaf having an aperture 5 therein. The base 2 of the container has an upwardly projecting continuation 6 which is slotted and the material which had formed the slot is bent toward the rear of the case so as to form a projection 7 capable of engaging the slot 5 in the flat leaf-spring 3. It will be noticed that in this case there need be no further provision to prevent or limit the downward movement of the back 1 as the projection 7, by engaging the slot in the spring 3, will hold the said back 1 in position. Upon swinging the cover upwards and backwards the projection 7 will become disengaged from the slot 5 so that the cover may be removed.

Referring to Figs. 12 and 13, these are sectional, elevational and rear views, respectively, of still a further modification of the present invention, and show the back 1 of the case provided with a spring 3 fastened thereto by bolts 4, which bolts also serve to hold a non-resilient metallic member 5. The said spring is provided near the lower extremity thereof and spaced a certain distance therefrom with a projection 6 which is capable of engaging the slot 7 formed in an upward extension 8 of the base 2 and which upward projecting extremity 9 abuts against the lower extremity 10 of the aforesaid metallic member 5, thus limiting the downward movement of the cover 1.

In applying the cover to the base the projection 6 upon the spring 3 will snap into the opening 7 of the extension 8 of the base 2 and will hold the cover against the removal, but upon swinging the said back rearwardly the projection 6 will become disengaged from

the slot 7 allowing the removal of the cover in the manner similar to that explained in connection with the other figures discussed herein.

5 The general method of applying the devices which form the subject matter of the present invention and their method of operation are shown diagrammatically by the sectional, elevational views, Figs. 14, 15, and 16, which show, in Fig. 14, the cover when in closed position, in Fig. 15 in the act of removal, and in Fig. 16 in the act of being replaced. In all of these Figs. 14, 15 and 16, similar numbers refer to identical parts.

15 A suitable base 2 serves to support a typewriter or adding machine (not shown) and is provided with a cover 1, the back wall of which serves to hold, for purposes of example, for instance, the member 6 as shown in Figs. 1 and 2.

20 The parts shown in Figs. 14, 15 and 16 as far as numbers 1 to 7 are concerned are identical with those shown in Figs. 1 and 2, so that it is not believed necessary to again describe these parts. The said base 2 is also provided with a conventional lock and clip 8, which forms no part of the present invention, and which serves to hold the forward end 9 of the said cover when the same is in place over the said base 2. Any suitable locking means may be employed. The cover 9 is prevented from moving backwards (i. e., to the left as shown in Figs. 14, 15 and 16) by the projection 20, although 30 this projection may form a part of the typewriter as it normally is attached to the base board. The base 2 is also provided with a plurality, usually four, of rubber feet 10 which serve to space the said base from the table when the case is resting thereon. As will be seen by referring to Fig. 14, which shows the case in place over the base, the cover 1 is held by the engagement of the projection 5 on the spring 3 against the projection 6 so that unless the spring clip 8 at the forward end of the case is loosened, it will be impossible to lift off the cover.

45 In Fig. 15 it should be noticed that the cover is pivotally rocked or tilted upwardly and backwardly so that the member 6 will swing upon an arc *a* which has its center at the point 11, (that is to say the extreme lower back edge of the cover 1) and as a result of this rotational movement, as shown in dotted lines comprising the arc *a*, the member 6 will swing out from under the projection 5 of the spring 3 thus completely releasing the cover and allowing its removal as a unit. In Fig. 16 is shown the method of replacing the cover which consists in merely placing it in substantially vertical position over the base 2 and allowing the same to drop downwardly and it will be seen that the projection 6 will push aside the spring 3 to allow 65 the projection 6 to pass the end 5 of the

spring 3 and eventually to resume the position shown in Fig. 14.

It is believed that the illustrations and description of the present specification will clearly set forth the invention and the various modifications which may be made therein, but it should be distinctly understood that still further mechanical modifications may be made without departing from the scope and purpose of the present invention, and that other means might be used, for example, to hold down the forward end of the cover.

It will be seen that I have provided a very simple and efficient means for retaining a box-like casing over a substantially flat base and which casing may be used to house a typewriter, adding machine, or other mechanical device. This will allow of the latter being carried about and shipped while fully protected and without the danger of the cover being removed accidentally. The said improved device will permit of almost instantaneous removal of the casing so as to allow access to all parts of the said machine.

What I claim as my invention is:

1. In a case for portable typewriters and the like consisting of a cover and a base, means for removably attaching said cover to said base comprising a leaf spring secured to said base and extending substantially vertically from one edge thereof and a member secured to the corresponding side wall of said cover and projecting therefrom to engage said spring.

2. In a case for portable typewriters and the like consisting of a cover and a base, means for removably attaching said cover to said base comprising an upwardly extending projection upon the inside back wall of said cover, a catch at the rear end of said base for engaging said projection and a spring biasing said catch toward said projection.

3. In a case for portable typewriters and the like consisting of a cover and a base, means for removably attaching said cover to said base comprising an upwardly extending projection upon the inside back wall of said cover, a catch at the rear end of said base for engaging said projection, a spring biasing said catch toward said projection and another projection on the inside rear wall of the cover for limiting its downward movement over said base.

4. In a case for portable typewriters and the like consisting of a cover and a base, means for removably attaching said cover to said base comprising an upwardly extending projection upon the inside rear wall of the cover, a catch projecting upwardly from the base and engaging said projection, a stop on the inside rear wall of the cover limiting the downward movement thereof upon said base, a spring biasing said catch toward the

rear wall of the cover and retaining means flexing said spring.

5. In a case for portable typewriters and the like consisting of a cover and a base, means for removably attaching said cover to said base comprising a bracket portion on said base, a leaf spring secured to, and extending upwardly from, said bracket portion and having its free upper extremity bent at substantially right angles, an upwardly extending member secured to, and projecting from, an inside wall of said cover for engaging the bent upper extremity of said leaf spring and means for limiting the downward movement of said cover over said base.

In witness whereof, I have hereunto subscribed my name.

MAX GARBELL.

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