

SPECIFICATION**FILING DEVICE****FIELD OF THE ART**

REPLACED SHEETS	SG
☒ Description : paged to paged ⁴¹	
☒ Claim(s) : paged ⁴² to paged	
☐ Drawing(s) : paged to paged	
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5 This invention relates to a filing device for a binder or a file suitable for storage or keeping in such a manner that the papers or sheets can easily be attached to or removed from by means of a binding fastener fixed to the inside of the filing device.

10 **BACKGROUND ART**

 The filing device of this kind conventionally comprises a folder body having a front cover, a back cover and a rear cover, and a binding fastener fixed to the inner face of the back cover by, for example, rivets. The folder body is made
15 of rigid sheet material such as cardboard or synthetic plastics and the binding fastener is of a sheet metal or rigid synthetic plastics. The binding fastener made of metal is fixed to the folder body made of paper or synthetic resin by means of a rivet made of metal and is so structured
20 not to easily be demounted from the folder body by the weight of the bound papers.

 Concern over the global ecological issues has recently been growing. Considering such a social trend, when products are to be disposed, the products are beginning not
25 just to be incinerated but treated as follows; first broken apart into each parts of the same material, then collected according to the parts classified based on whether the material is reusable or not, or whether the material should



be burned or not, and finally provided with a treatment according to each of the material for the reuse of the material of the products.

For the above-mentioned filing device when it is to be
5 disposed, the binding fastener and the rivet made of metal is reusable if collected and melted, and the folder body made of paper is reusable as a recycled paper if collected. However, if the binding fastener is securely fixed to the folder body by the rivet, the filing device may not be
10 divided into different material on the spot where the filing device has been used, thereby to cause difficult collection of the parts according to the material. That is, there is no other way but to plastically deform the rivet by means of a tool such as a drill or the like for demounting the
15 binding fastener from the folder body. In offices where the filing devices are used or kept it is rare to ordinarily be furnished with the above-mentioned tools so that it may be costly to purchase the tool just for the disposal of the filing device, which makes it difficult to separate and
20 collect the filing device according to the material as mentioned above. In addition, if the operation to separate the filing device accompanies too much trouble, it may not be conducted because it is not obligatory to separate and collect the filing device. There is also a problem that it
25 involves risks to separate the filing device by using the tools like a drill.

The present invention has been accomplished to solve the above-mentioned problems. The object of the invention is



to provide a filing device having such a structure that the binding fastener can be separated from the folder body without using a tool which is not ordinarily furnished.

DISCLOSURE OF THE INVENTION

5 To attain the above-mentioned object the invention has adopted the following structures. The filing device in accordance with the invention is a filing device in which a binding fastener fixedly attached to a folder body can be demounted from the folder body with accompanying plastic
10 deformation or destruction of the parts of the filing device, and is characterized by that the binding fastener is fixedly attached to the folder body by a binding mechanism which fastens the binding fastener to the folder body and which enables the binding fastener to be released from the
15 folder body by a relative movement of the binding fastener to the folder body, and an engaging lock mechanism which prohibits the relative movement.

 The filing device in accordance with the invention includes the one which binds sheet material such as papers
20 or the like by inserting a pipe-shaped member into a hole provided on the neighborhood of the side edge of the sheet material or by holding the sheet material between binding fasteners. The sheet material may include sum papers or continuous papers of a predetermined size, bags of synthetic
25 resin which can accommodate floppy disks or compact disks or the like, and a sheet of synthetic resin. The folder body of these filing device is representatively of card board, but may be a sheet of plate-shaped. The folder body may be



of synthetic resin other than of paper. The binding fastener may have such a structure that a hole is formed on the object to be bound and a pipe or a ring or the like are inserted into the hole or that one end of the object to be bound is pressed from the face thereof to the folder body. The binding fastener may be of metal or synthetic resin according to the weight of the amount of the object to be bound.

The binding mechanism in accordance with the invention binds the folder body and the binding fastener with supporting the load acting on the binding fastener while the engaging lock mechanism prohibits the folder body and the binding fastener from relative movement, and makes it possible to demount the binding fastener from the folder body when the prohibition of the relative movement is released. To bind does not mean to fix the binding fastener to the folder body semi permanently but means to maintain the condition of fixation or fixedly attachment under a predetermined condition. The engaging lock mechanism does not necessarily have such a high rigidness as the binding mechanism does because it does not support the load acting essentially on the binding fastener but just prohibits the relative movement. The relative movement in accordance with the invention does not mean the movement perpendicular to a face where the folder body and the binding fastener are bound but means the parallel movement horizontal to the above-mentioned face. The relative movement is preferably toward other direction than that of the load acting. In



this case the movement may draw straight or curve.

The binding mechanism is preferably represented by;

5 (1) that comprising a mounting hole provided either one of the folder body or the binding fastener and having a small-circular portion and a big-circular portion arranged continuously to the small-circular portion, a through hole provided on the other and having a diameter corresponding to the small-circular portion, and a rivet passing through both of the through hole and the small-circular portion,

10 (2) wherein instead of the mounting hole comprising the small-circular portion and the big-circular portion, the mounting hole comprises a rivet through portion and a cross slit portion having a slit for easy destruction arranged continuously to the rivet through portion,

15 (3) that comprising a hook-shaped bent portion provided either one of the folder body or the binding fastener and an engaging hole provided on the other, wherein the hook-shaped bent portion inserted into the engaging hole is brought into engagement with an opening edge of the engaging hole by the relative movement of the folder body to the binding fastener,

20 (4) that comprising a bent member passing through the folder body and projecting out of the inner face thereof and which is provided on a fixing plate arranged along the outer face of the folder body, and an engaging hole provided on the binding fastener, wherein the bent member is brought into engagement with the engaging hole by the relative movement of the folder body to the binding fastener, and



(5) that comprising a pair of guide holders provided on both up and down edges of the fixing plate arranged along the folder body and which pass through the folder body and project from the inner face thereof, and an abutting member which is provided on one longitudinal side of the fixing plate and which passes through the folder body and project from the inner face thereof wherein both of the up and down edges of the fixing plate is brought into engagement with the abutting member.

10 In combination with the above binding mechanism (1), (2), and (3), the engaging lock mechanism is preferably represented by that comprising an engaging hole provided on the folder body and a stopper provided on the binding fastener with the front bent portion thereof inserted into
15 the above-mentioned engaging hole. The stopper may be an oblong member with its free end just bent, or a curved-wall-shaped member having a semicircular free end and a front bent portion elongated from the edge of the semicircular free end. In this case the front bent portion is brought
20 into engagement with a circular locking hole. In case the binding fastener is of synthetic resin, an elastically transformable stopper is provided with a thick portion at its tip, which makes engagement with a locking hole provided on the folder body. The engaging lock mechanism may also be
25 represented by that comprising a locking hole provided on the folder body, a through hole provided on the binding fastener, a stopper engaged with the locking hole with a head portion thereof engaged with an opening edge of the



through hole and with a leg portion passing through the through hole, and a stopper engaging portion which prohibits the stopper from being pulled out by engaging with the head portion when the stopper rotates.

5 The engaging lock mechanism to be combined with the binding mechanism in the above-mentioned (4), or (5) preferably comprises an engaging hole provided on the binding fastener, a through hole providing on the folder body corresponding to the engaging hole, and a stopper
10 provided on the fixing plate and which makes engagement with the engaging hole by passing through the through hole.

 In accordance with the arrangement, while the engaging lock mechanism is functioning, i.e. the folder body and the binding fastener are prohibited from relative movement, the
15 folder body and the binding fastener are fastened by the binding mechanism and papers or the like can be bound by means of the binding fastener. If the engaging lock mechanism is halted to function in this state, the folder body and the binding fastener are brought into a movable
20 condition relative to each other. More specifically, although the folder body and the binding fastener are bound by the binding mechanism, the state in which the folder body and the binding fastener are bound can be released by the relative movement of the folder body to the binding
25 fastener. That is, when the binding fastener is to be demounted from the folder body, halt in the function of the engaging lock mechanism makes it possible to release the binding fastener from the folder body without plastically



deforming or destroying the binding mechanism which binds the binding fastener. As a result of this, the binding fastener can be demounted from the folder body without plastically deforming or destroying the binding mechanism which essentially fastens the binding fastener to the folder body. Then the folder body and the binding fastener can be separated without accompanying troublesome or risky operation, thereby to be recycled or effectively disposed.

BRIEF DESCRIPTION OF THE DRAWINGS

10 Figure 1 is an exploded perspective view showing a preferred embodiment of this invention, Figure 2 is a plane view showing the principal portion of the embodiment, Figure 3 is a front view showing the principal portion of the embodiment, Figure 4 is a sectional view taken along line A-
15 A of Figure 2, Figures 5 to 7 show processing steps to dispose the filing device of the embodiment, Figure 8 is a plane view showing an arrangement of the hole in the binding mechanism according to another preferred embodiment of this invention, Figure 9 is a plane view showing an arrangement
20 of the hole in the binding mechanism according to further preferred embodiment of this invention, Figure 10 is a sectional view showing the binding mechanism according to further preferred embodiment of this invention, Figure 11 is a perspective view showing the engaging lock mechanism
25 according to further preferred embodiment of this invention, Figure 12 is a plane view showing the principal portion of the embodiment, Figure 13 is a sectional view taken along line B-B of Figure 12, Figure 14 is a perspective view

showing the engaging lock mechanism according to further embodiment of this invention, Figure 15 is an explanatory view showing the principal portion of the embodiment, Figure 16 is a perspective view showing the binding mechanism in accordance with further embodiment, Figure 17 is a sectional view showing the principal portion of the embodiment, Figure 18 is an explanatory view showing the function of the principal portion, Figure 19 is a perspective view showing the binding mechanism in accordance with further embodiment of this invention, Figure 20 is a plane view showing the principal portion of the embodiment, Figure 21 is a sectional view taken along line C-C of Figure 20, Figure 22 is a perspective view showing the engaging lock mechanism in accordance with further embodiment of this invention, Figure 23 is a plane view showing the principal portion of the embodiment, Figure 24 is a sectional view taken along line D-D of Figure 23, Figure 25 is a perspective view showing the engaging lock mechanism in accordance with further embodiment of this invention, Figures 26 and 27 are explanatory views showing the function of the embodiment, Figure 28 is a perspective view showing the binding and engaging lock mechanisms in accordance with further embodiment of this invention, Figure 29 is a sectional view showing the embodiment, Figure 30 is a perspective view showing the binding and engaging lock mechanisms in accordance with further embodiment of this invention, Figure 31 is a plane view showing the embodiment, Figure 32



is a sectional view taken along line E-E of Figure 31, Figure 33 is a perspective view showing the binding and engaging lock mechanisms in accordance with further embodiment of this invention, and Figure 34 is a sectional view showing the embodiment.

BEST MODES OF EMBODYING THE INVENTION

An embodiment of the invention will now be described with reference to Fig. 1 through 7.

The filing device showed in Fig. 1 comprises a folder body 1, and a binding fastener 2 which is securely attached to the inner face, namely back face of the folder body 1. The folder body 1 is made of a sheet of cardboard, and has a front cover 1a, a back cover 1b, and a rear cover 1c. Hinge sections 1d concaved from a front face toward a rear face are formed along the boundary between the back cover 1b and the front cover 1a and between the back cover 1b and the rear cover 1c for easy folding the front cover 1a and the rear cover 1c. The binding fastener 2 is fixedly attached to the inner face of the back cover 1b at the longitudinal center thereof by a binding mechanism 3 and an engaging lock mechanism 4 to be described hereinafter.

The binding fastener 2 is well known in the art and has such an arrangement that papers are bound by a pair of pipe-shaped binding rods 22a into which a sliding rod 21a can be removably inserted. That is, the binding fastener 2 comprises a base member 22 fixedly attached to the folder body 1 under a predetermined condition by both the binding mechanism 3 and the engaging lock mechanism 4, a movable



side plate 22d pivotally connected to the base member 22 and having a pair of binding rods 22 projected on the inside thereof, and a clamp member 21 removably mounted to the above-mentioned binding rod 22a by the sliding rod 21a. The
5 arrangement for binding papers to the base member 22 in coaction with the binding rod 22a and the clamp member 21, and a locking device 22b for locking the clamp member 21 to the base member 22 or the like may be the same as well known in the art. Accordingly, no further explanation to the
10 arrangement is given here.

The base member 22 in accordance with the embodiment is of a suitable sheet metal. On a mounting member 22c of the base member 22 provided are a through hole 32 as the binding mechanism 3 into which a rivet 31 is inserted and a stopper
15 41 as the engaging lock mechanism 4 whose front is bent to form a front bent portion 41a. The through hole 32 is a small circle-shaped hole having generally the same in diameter as the rivet 31 and is arranged at a location in the neighborhood of each of the four corners of the
20 rectangular mounting member 22c. The stopper 41 is formed near upside and downside at the center of the width on the mounting member 22c with a base portion 41b of a small member cut out from the mounting member 22c kept flat to the mounting member 22c and a tip thereof bent toward the folder
25 body 1. A release hole 41c is formed on the base portion 41b of the stopper 41 for inserting a screwdriver or the above-mentioned sliding rod 21a if necessary to fold and bend the stopper 41 upwardly. More specifically, the



release hole 41c comprises an oval hole whose longitudinal direction is parallel to the front bent portion 41a corresponding to the minus screwdriver to be inserted and a circle hole which is arranged at generally the center of the oval hole and into which the sliding rod 21a of the clamp member 21 can be inserted for folding and bending the stopper 41 without a screwdriver.

Corresponding to the base member 22 having the above-mentioned arrangement, the back cover 1b of the folder body 1 is provided with a mounting hole 33 as the binding mechanism 3 and an engaging hole 42 as the engaging lock mechanism 4. The mounting hole 33 comprises a small-circular portion 33a having generally the same diameter as the rivet 31 and a big-circular portion 33b continuously arranged to the small-circular portion 33a to form a keyhole shape. The mounting hole is not limited to the shape of the keyhole but may comprise, for example, a big portion having a shape of oval and a small portion elongated from one end of the big portion toward the direction perpendicular to the longitudinal direction of the big portion. The big-circular portion 33b has such a diameter that the head 31a of the rivet 31 can easily pass therethrough. In this embodiment the mounting hole 33 is so arranged that the big-circular portion 33b is positioned upside when the filling device is in use. As a result of this arrangement of the mounting hole 33, the rivet 31 is prevented from moving toward the big-circular portion 33b even though a relatively big load acts on the binding fastener 2 in ordinal use. The engaging



hole 42 is rectangular in shape and arranged so that the front bent portion 41a of the stopper 41 makes abutting engagement with one of the inner wall faces 42a of the locking hole 42 when the base member 22 is bound to the folder body 1. More particularly, the locking hole 42 has a wider width than that of the stopper 41 and is so arranged to form the inner wall face 42a with which the front bent portion 41a makes abutting engagement when the binding fastener 2 is positioned where it is to be fixed.

10 The binding fastener 2 is fixedly attached to the folder body 1 by the rivet 31 and the stopper 41 serves to prevent the binding fastener 2 from moving from the fixed position. More particularly, for fixing the binding fastener 2 to the folder body 1, first bring the base member

15 22 into coincidence with the folder body 1. At this time align the center of the through hole 32 formed on the base member 22 with that of the small-circular portion 33a of the mounting hole 33 formed on the folder body 1 to make them concentric. When the alignment has been completed, the

20 stopper 41 comes into abutting engagement with the inner wall face 42a of the locking hole 42, thereby to prohibit the binding fastener 2 from moving toward the big-circular portion 33b of the mounting hole 33. Insert the rivet 31 into each of four small-circular portions 33a of the

25 mounting hole 33 and the corresponding through hole 32 until the rivet 31 passes through them and then rivet the tip of the rivet 31 projecting from the through hole 32 (as shown in Fig. 4). With the tip of the rivet 31 riveted, the



binding fastener 2 is fixedly attached to the folder body 1 by the same strength as the conventional filing device. In the fixed state the binding fastener 2 does not move along the folder body 1 because of the riveting force by the rivet 5 31 unless relatively big external force is applied thereto. The binding fastener 2 is prohibited from moving without fail because the front bent portion 41a of the stopper 41 makes abutting engagement with the inner wall face 42a of the locking hall 42. More specifically, although the 10 binding fastener 2 moves along the inner face of the folder body 1 when the predetermined condition is satisfied, the binding fastener 2 is riveted to the folder body 1 and most of the load applied to the binding fastener 2 is sustained by the rivet 31 when in use.

15 With the above-described arrangement of the filing device, the binding fastener 2 can be demounted from the folder body 1 when the filing device becomes unnecessary. For demounting the binding fastener 2, as shown in Fig. 5 through Fig. 8, first plastically deform, namely, bend the 20 stopper 41 upwardly to the base member 22 to make the front bent portion 41a project out of the locking hole 42. Insert the tip of the screwdriver SD into the release hole 41c and lift the tip thereof for bending the stopper 41 (as shown in Fig. 5 and 6). Then the binding fastener 2 comes into a 25 movable condition toward the big-circular portion 33b of the mounting hole 33 along the inner face of the folder body 1. Hold the folder body 1 with one of the hands so as not to travel, and move the binding fastener 2 toward the big-



circular portion 33b with another hand, thereby to bring the head 31a of the rivet 31 into coincidence with the big-circular portion 33b (as shown in Fig. 7). As the head 31a of the rivet 31 is smaller in diameter than the big-circular portion 33b, the binding fastener 2 can be demounted from the folder body 1 if the binding fastener 2 is moved upwardly perpendicular to the inner face of the folder body 1. In this case the rivet 31 which has fixed the binding fastener 2 to the folder body 1 attaches to the demounted binding fastener 2 without being destroyed or plastically deformed.

As the binding fastener 2 can be demounted just by moving the binding fastener 2 relatively to the folder body 1 after the stopper 41 provided on the base member 22 is bent, each parts of different material can easily be separated, collected and disposed according to the material. More specifically, the binding fastener 2 of metal and the folder body 1 of paper can be brought into a condition that is ready for easy removal without using any special tool, resulting in easy removal operation for anybody. This in turn essentially eliminates the time required for separation according to the material and disposal of the filing device, thereby to promote the effective utilization of the resource.

Referring to Fig. 8, a filing device according to the second embodiment of the invention will now be described.

This embodiment is different from the embodiment previously described in the arrangement of the mounting hole



33 of the binding mechanism 3. In this embodiment, the arrangements other than that of the mounting hole 33 are essentially the same as those of the above embodiment. Therefore, the same reference number is given to the same
5 element in the drawings and no description will be given.

Unlike in the above embodiment, in the second embodiment the mounting hole 33 of the binding mechanism 3 is, as shown in Fig. 8, so arranged that the binding fastener 2 is to be moved toward the direction of left or
10 right relatively to the folder body 1. More specifically, the small-circular portion 33a is formed on the left side of the mounting hole 33 and the big-circular portion 33b is continuously formed on the right side of the small-circular portion 33a.

15 Referring to Fig. 9, the third embodiment of the invention will now be described.

The third embodiment is different from the first and second embodiments in the arrangement of the mounting hole 33 of the binding mechanism 3.

20 Unlike in the above embodiment, in the third embodiment the mounting hole 33 of the binding mechanism 3 is, as shown in Fig. 9, so arranged that the binding fastener 2 is to be rotated around the center of the base member 22 relatively to the folder body 1. More specifically, four small-
25 circular portions 33a are arranged along the arc of the circle whose center coincides with that of the base member 22, where the big-circular portion 33b is arranged continuous to the right side of the small-circular portion



33a which locates upside while the big-circular portion 33b is arranged continuous to the left side of the small-circular portion 33a which locates downside. In this embodiment, there are two locking holes 42 with each of
5 which the stopper 41 makes engagement to prevent the binding fastener 2 from rotating.

Referring to Fig. 10, the forth embodiment of the invention will now be described.

This embodiment is different from the embodiments
10 previously described in the binding mechanism 3. In this embodiment the binding mechanism 3 is, as shown in Fig. 10, the mounting hole 33 is formed on the binding fastener 2 and the through hole 32 is formed on the folder body 1. In this case, it will dampen the significance of separating the
15 folder body 1 from the binding fastener 2 if the rivet 31 made of metal as binding mechanism 3 remains to attach to the folder body 1 made of paper. Accordingly, the diameter of the through hole 32 is preferably made generally the same as that of the riveted portion of the rivet 31. More
20 specifically, the through hole 32 formed on the folder body 1 is so made in diameter that the riveted portion of the rivet 31 can pass therethrough. As the riveted portion of the rivet 31 can easily pass through the through hole 32 having such a diameter, a ring-shaped bush 34 whose inner
25 diameter generally equals to the outer diameter of the rivet 31 and whose outer diameter generally equals to the diameter of the through hole 32 is provided to surround the rivet 31. The rivet 31 is inserted into the through hole 32 from the



direction of the outer face of the folder body 1 by the bush 32 and one end 31b which passes through the small-circular portion 33a of the mounting hole 33 is riveted. With the above-described arrangement of the filling device, the rivet 5 31 can be demounted from the folder body 1 together with the bush 34.

Now referring to Fig. 11 through Fig. 13, the fifth embodiment of the invention will now be described.

This embodiment is different from the embodiment 10 previously described in the engaging lock mechanism 504 and other arrangements are essentially the same as those of the first embodiment. Therefore, the same reference number is given to the same element in the drawings and no description will be given.

15 In the fifth embodiment, the engaging lock mechanism 504 comprises, as shown in Fig. 11 through Fig. 13, a stopper 541 having a base portion 541b whose free end is generally semicircular-shaped and a curved-wall-shaped front bent portion 541a elongated from the edge of the 20 semicircular-shaped free end, and a circular-shaped locking hole 542.

More specifically, there are two stoppers 541, and each stopper 541 is formed at the center of the width and at the neighborhood of upside and downside edges on the mounting 25 member 22c. The base portion 541b is formed to be flat to the mount member 22c. The edge of the free end is elongated toward the folder body 1 to make the front bent portion 541a. The front bent portion 541a is a generally



semicircular-shaped wall and makes abutting engagement with the inner wall face 542a of the locking hole 542 so as to prohibit the binding fastener 2 from moving toward the big-circle portion 33b of the mounting hole 33 when the binding
5 fastener 2 is mounted on the folder body 1. A release hole 541c is formed on the base portion 541b of the stopper 541 for inserting a sliding rod or the like to fold and bend the stopper 541 upwardly when necessary. The release hole 541c is of circular-shaped concentric with the stopper 541. A
10 part of the mounting member 22c which is continuous to the release hole 541 is raised up for reinforcement.

The locking hole 542 is of circular shaped having a curved inner wall face 542a and formed on the back cover 1b of the folder body 1. The locking hole 542 is arranged at a
15 position where the front bent portion 541a of the stopper 541 makes abutting engagement with the inner wall face 542a when the base member 22 is bound to the folder body 1. The diameter of the locking hole 542 is a little larger than that of the stopper 541.

20 With the above-described arrangement of the filing device, the binding fastener 2 can be attached to or demounted from the folder body 1 as the same as the above-mentioned embodiments. More specifically, for attaching the binding fastener 2 to the folder body 1, first bring the
25 base member 22 into coincidence with the folder body 1 to align the center of the through hole 32 formed on the base member 22 with that of the small-circular portion 33a of the mounting hole 33 formed on the folder body 1. When the



alignment has been finished, the stopper 541 makes abutting engagement with the inner wall face 542a of the locking hole 542, thereby to prohibit the binding fastener 2 from moving toward the big-circular portion 33b of the mounting hole 33.

5 Next insert each of four rivets 31 into each small-circular portion 33a of the mounting hole 33 and the through hole 32 and then rivet the tip of the rivet 31 projecting from the through hole 32. For removing the binding fastener 2 from the folder body 1 when the filing device becomes

10 unnecessary, first bend to plastically deform the front bent portion 541a of the stopper 541 upwardly to the base member 22 by means of a sliding rod or the like until the front bent portion 541a of the stopper 541 is released from the abutting engagement with the inner wall face 542a. The

15 binding fastener 2 comes into a condition of being able to be moved toward the big-circular portion 33b of the mounting hole 33. Next move the binding fastener 2 to the folder body 1 until the rivet 31 is perfectly brought into coincidence with the big-circular portion 33b. Then demount

20 the binding fastener 2 from the folder body 1.

With the above-described arrangement, the shape of the front bent portion 541a of the stopper 541 in the engaging lock mechanism 504 is a curved wall extending from the edge of the semicircular, resulting in improvement of the

25 strength of the stopper 541 as well as the same effect produced as the above-mentioned embodiments.

Referring to Figs. 14 and 15, the sixth embodiment of the invention will now be described.



The sixth embodiment is different from the embodiment previously described in the engaging lock mechanism 604 and other arrangements are essentially the same as those of the first embodiment.

5 In the sixth embodiment, as shown in Figs. 14 and 15, the stopper 641 of the engaging lock mechanism 604 makes engagement with the big-circular portion 633b of the mounting hole 633 as the binding mechanism 603. More specifically, the mounting hole 633 is formed like the first
10 embodiment on the back cover 1b of the folder body 1 and comprises a small-circular portion 633a having generally the same diameter as the rivet 31 and a big-circular portion 633b arranged continuous to the small-circular portion 633a to form a keyhole shape. The big-circular portion 633b is
15 arranged upside to the small-circular portion 633a when the filling device is in use and at a position where the front bent portion 641a of the stopper 641 to be described hereinafter makes abutting engagement with the inner wall face thereof. The diameter of the big-circular portion 633b
20 is a little larger than those of the head 31a of the rivet 31 and the stopper 641. The through hole 632 has generally the same diameter as the rivet 31 and is formed at a position to concentrate with the small-circular portion 633a when the base member 22 is bound to the folder body 1. The
25 engaging lock mechanism 604 is, as shown in Figs. 14 and 15, the same as that of the fifth embodiment and comprises a stopper 641 having a base portion 641b whose free end is generally semicircular-shaped and a curved-wall-shaped front



bent portion 641a elongated from the edge of the
semicircular free end, and a circular-shaped locking hole
which makes engagement with the stopper 641 and formed on
the back cover 1b of the folder body 1. The big-circular
5 portion 633b functions as a locking hole and makes
engagement with the stopper 641 when the base member 22 is
bound to the folder body 1.

In accordance with the arrangement, the binding
fastener 2 can be attached to or demounted from the folder
10 body 1 as the same as the above-described embodiments.

With the above-described arrangement, the big-circular
portion 633b of the mounting hole 633 makes engagement with
the stopper 641 while the base member 22 is bound to the
folder body 1 and it can be a hole through which the head
15 31a of the rivet 31 passes when the base member 2 is to be
demounted from the folder body 1, thereby it serves two
different functions as well as to produce the same effect as
the above-mentioned embodiments. Accordingly, the number of
the holes formed on the folder body 1 can be diminished,
20 resulting in lesser processing portions of the folder body
1.

Referring to Fig. 16 through Fig. 18, the seventh
embodiment of the invention will now be described.

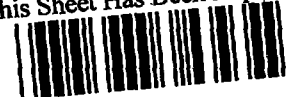
The seventh embodiment is different from the fifth
25 embodiment previously described in the binding mechanism 703
and other arrangements are essentially the same as those of
the fifth embodiment. Therefore, the same reference number
is given to the same element in the drawings and no



description will be given.

In accordance with the seventh embodiment, the binding mechanism 703 comprises, as shown in Fig. 16 through Fig. 18, the mounting hole 733 formed on the folder body 1 and which has a rivet through portion 733a and a cross slit portion 733 which is arranged continuous to the rivet through portion 733a. The through hole 32 formed on the binding fastener 2 has a corresponding diameter to the rivet through portion 733a. More specifically, the mounting hole 733 comprises the rivet through portion 733a having generally the same diameter as the rivet 31 and the cross-shaped cross slit portion 733b formed continuously upward to the rivet through portion 733a when the filing device is in use. The down end of the cross slit portion 733b is continuous to the rivet through portion 733a and so formed that the opening width thereof is quite smaller than the diameter of the rivet 31. Accordingly, the rivet 31 which is inserted into and passed through the rivet through portion 733a does not move toward the cross slit portion 733b unless the cross slit portion 733b is destroyed to form the diameter of an opening bigger than that of the rivet 31.

In addition, the cross slit portion 733b has such a strength that it can be destroyed if a force bigger than the predetermined is applied thereto, and both of the width and the length are formed bigger than the diameter of the head 31 of the rivet 31 to form a hole having a diameter through which the head 31a of the rivet 31 can be passed when destroyed.



With the above-described arrangement, the binding fastener 2 can be attached to the folder body 1 as the same as the above-described fifth embodiment. When the filing device becomes unnecessary, first release the binding fastener 2 from being prohibited to move to the folder body 1 by the stopper 541 by means of a sliding rod or the like so as to make the binding fastener 2 in a condition that it can be moved toward the cross slit portion 733b of the mounting hole 733. Next destroy the back cover 1b around the cross slit portion 733b by applying a force bigger than the predetermined to the binding fastener 2 toward the cross slit portion 733b. Then move the binding fastener 2 to the folder body 1 until the center of the rivet 31 making engagement with the rivet through portion 733a is brought into coincidence with the cross portion of the cross slit portion 733b. The broken back cover 1b comes into a state of being able to be passed through by the head 31a of the rivet 31 by applying further force in the state shown in Fig. 18. Then the folder body 1 can be demounted from the binding fastener 2 together with the rivet 31 if the binding fastener 2 is demounted.

In accordance with the arrangement of the embodiment, the strength of mounting the binding fastener 2 to the folder body 1 can be improved as well as producing the same effect as the above-mentioned embodiments.

Referring to Fig. 19 through 21, the eighth embodiment of the invention will now be described.

The eighth embodiment is different from the previously



described embodiments in the binding mechanism 803 and other arrangements are essentially the same as those of the fifth embodiment. Therefore, the same reference number is given to the same element in the drawings and no description will
5 be given.

In accordance with the eighth embodiment, the binding mechanism 803 comprises, as shown in Fig. 19 through 21, a hook-shaped bent portion 832a provided on the mounting member 22c of the binding fastener 2 and an engaging hole
10 833 provided on the folder body 1. The binding mechanism 803 is so arranged that the hook-shaped bent portion 832a inserted into the engaging hole 833 comes into engagement with an opening edge 833a of the engaging hole 833 by the movement of the folder body 1 relative to the binding
15 fastener 2.

More specifically, the hook-shaped bent portion 832a is formed to elongate the edge of the hole 832 which locates upper side when the filing device is in use toward the folder body 1 and to elongate the free end of the elongated
20 edge downward when the filing device is in use. The hole 832 is formed at a location in the neighborhood of each of the four corners of the rectangular mounting member 22c. A square shaped engaging hole 833 is formed on the back cover 1b of the folder body at a position with which the hook-
25 shaped bent portion 832a can make abutting engagement when the binding fastener 2 is bound to the folder body 1. The engaging hole 833 has a little larger opening width than that of the hook-shaped bent portion 832a so that the hook-



shaped bent portion 832a can be inserted thereinto. The engaging hole 833 has an opening edge at the down side thereof when the filing device is in use. The hook-shaped bent portion 832a makes engagement with the opening edge 833a to bind the binding fastener 2 to the folder body 1. In addition, the part continuous to the opening edge 833a and to which the binding fastener 2 is to be attached is formed to have less thickness than that of the other face as much as generally the same as the thickness of the hook-shaped bent portion 832a to make the surface of the hook-shaped bent portion 832a flat to the other face when the hook-shaped bent portion 832a makes engagement with the folder body 1.

With the above-mentioned arrangement, for mounting the binding fastener 2 to the folder body 1, only insert the hook-shaped portion 832a into the engaging hole 833 to make engagement with the opening edge 833a of the engaging hole 833. In this state, the binding fastener 2 is prohibited from moving downwardly to the folder body 1 when the filing device is in use. In addition, as the stopper 541 is engaged with the locking hole 542 like the fifth embodiment, the binding fastener 2 is prohibited from moving upwardly along the folder body 1 when the filing device is in use, resulting in no fixing device like a rivet required for mounting the binding fastener 2 to the folder body 1. In accordance with the arrangement, no fixing device like a rivet is required to bind the binding fastener 2 to the folder body 1, thereby to require no time and labor for



fixing by the fixing device. As a result of this, the process of mounting the binding fastener to the folder body is simplified.

Now referring to Fig. 22 through Fig. 24, the ninth
5 embodiment of the invention will be described.

The ninth embodiment is different from the embodiment previously described in the engaging lock mechanism 904 and other arrangements are essentially the same as those of the first embodiment. Accordingly, the same reference number is
10 given to the same element in the drawings and no description will be given.

The binding fastener 902 is of rigid synthetic resin and, as shown in Fig. 22, comprises a through hole 932 into which a rivet 31 is to be inserted and pass through and a
15 stopper 941, both of which are provided on the mounting member 922c of the base member 922. The through hole 932 is a small circle-shaped hole having generally the same in diameter as the rivet 31 and is arranged at a location in the neighborhood of each of the four corners of the mounting
20 member 922c. The engaging lock mechanism 904 comprises, as shown in Fig. 22 through 24, a locking hole 942 provided on the folder body 1 and an elastically transformable stopper 941 which is integrated with the binding fastener 902 of synthetic resin and at the tip of which provided is a thick
25 portion 941a to be inserted into the above-mentioned locking hole 942.

More specifically, there are two stoppers 941, and each of the stoppers 941 is formed at the center of the width and



at the neighborhood of upside or downside edge on the mounting member 922c and comprises a base portion 941b formed to be flat to the mounting member 922c and a thick portion 941a formed thicker on the side thereof facing the folder body 1 than the base portion 941b as much as the thickness of the folder body 1. The thick portion 941a is in a shape of semicircular and prohibits the binding fastener 902 from moving toward the big-circular portion 33b of the mounting hole 33 by making engagement with the locking hole 942 when the binding fastener 902 is mounted to the folder body 1. The base portion 941b of the stopper 941 has a release hole 941c for inserting a sliding rod or the like when it is necessary to elastically deform the stopper 941 upwardly. The release hole 941c is a shape of circular concentric with the stopper 541.

In accordance with the arrangement, the binding fastener 902 can be attached to or demounted from the folder body 1 as the same as the above-described embodiments. More specifically, for attaching the binding fastener 902 to the folder body 1, first bring the base member 922 into coincidence with the folder body 1 and align the center of the through hole 932 formed on the base member 922 with that of the small-circular portion 33a of the mounting hole 33 formed on the folder body 1 to make them concentric. When the alignment has been completed, the thick portion 941a of the stopper 941 comes into engagement with the locking hole 942, thereby to prohibit the binding fastener 902 from moving toward the big-circular portion 33b of the mounting



hole 33. Next, insert each of the four rivets 31 into each small-circular portion 33a of the mounting hole 33 and the through hole 932. Finally, rivet the tip of the rivet 31 projecting from the through hole 932. For demounting the binding fastener 902 from the folder body 1 when the filing device becomes unnecessary, first plastically deform the stopper 941 upwardly along the base member 922 to release the engagement of the stopper 941 with the locking hole 542 by using a sliding rod or the like. Then the binding fastener 902 comes into a condition movable toward the big-circular portion 33b of the mounting hole 33. Next, move the binding fastener 902 relatively to the folder body 1 toward the big-circular portion 33b until the rivet 31 is brought into coincidence with the big-circular portion 33b. Then finally demount the binding fastener 902 from the folder body 1.

In accordance with the arrangement, although the binding fastener 902 is of synthetic resin, the same effects are produced as the above-mentioned embodiments in which the binding fastener is of metal.

Now referring to Fig. 25 through Fig. 27, the tenth embodiment of the invention will be described.

The tenth embodiment is different from the first embodiment in the engaging lock mechanism 1004 and other arrangements are essentially the same as those of the first embodiment. Accordingly, the same reference number is given to the same element in the drawings and no description will be given.

In the tenth embodiment, the engaging lock mechanism 1004, as shown in Fig. 25 through 27, comprises a locking hole 43 provided on the folder body 1, a through hole 44 provided on the binding fastener 2, a stopper 45 engaged with the locking hole 43 with a head portion 45a engaged with an opening edge of the through hole 44 and a leg portion 45b passed through the through hole 44 and a stopper engaging portion 46 which prohibits the stopper 45 from being pulled out by engaging with the head portion 45a when the stopper rotates. More specifically, in the engaging lock mechanism 1004 the stopper 45 is bolt-shaped and comprises the flat head portion 45a and the leg portion 45b projecting downward from the bottom of the head portion 45a. At the center of the head portion 45a provided is a concave 45c for engaging a screwdriver. At a location in the neighborhood of the edge of the head portion 45a provided is a concave 45d for preventing the head portion 45a from rotating. With the leg portion 45b of the stopper 45 inserted into and passed through the locking hole 43 formed on the folder body 1 and the through hole 44 formed on the binding fastener 2, the head portion 45a is engaged with the stopper engaging portion 46 formed on the binding fastener 2 by means of press molding or the like (as shown in Fig. 25). The downwardly projecting projection 46a formed on the stopper engaging portion 46 comes into engagement with the concave 45d and prevents the head portion 45a from being pulled out of the stopper engaging portion 46 by vibration or the like. As a result of this engagement of the head



portion 45a with the stopper engaging portion 46, the stopper 45 is prohibited from moving upward along the binding fastener 2. In addition, as the leg portion 45b is inserted into both the locking hole 43 and the through hole 44, the binding fastener 2 is prevented from moving relatively to the folder body 1.

For removing the binding fastener 2, first engage the screwdriver with the concave 45c formed on the head portion 45a of the stopper 45. Then rotate the stopper 45 clockwise at least 90 degrees to release the engagement of the head portion 45a with the stopper engaging portion 46 (as shown in Fig. 26). When this engagement is released, lift the stopper 45 to completely draw the leg portion 45b out of the locking hole 43 and the through hole 44 (as shown in Fig. 27). This makes the binding fastener 2 and the folder body 1 free from the bolted condition by the leg portion 45b, resulting in a condition where the binding fastener 2 and the folder body 1 are relatively movable. Finally, demount the binding fastener 2 from the folder body 1 by moving the binding fastener 2 upward along the folder body 1 as the same as the above-mentioned embodiments. The stopper 45 may be applied to the above-mentioned embodiment as shown in Fig. 8, the embodiment as shown in Fig. 9, the embodiment as shown in Fig. 16 through 18, the embodiment as shown in Fig. 19 through 21, or the embodiment as shown in Fig. 28 and 29 to be described hereinafter.

Referring to Figs. 28 and 29, the eleventh embodiment will now be explained.

In the eleventh embodiment, the binding mechanism 103 comprises a bent member 131 which passes through the folder body 101 and projects from the inner face thereof and which is provided on a fixing plate 105 arranged along the outer
5 face of the folder body 101, and an engaging hole 132 provided on the binding fastener 102. For attaching the binding fastener 102 to the folder body 101 at a predetermined position, first engage the bent member 131 with one edge 132a of the engaging hole 132 by moving the
10 binding fastener 102 relatively to the folder body 1. Then hold the folder body 1 between the fixing plate 105 and the binding fastener 102.

The engaging lock mechanism 104 comprises a stopper engaging hole 141 provided on the binding fastener 102, a
15 stopper through hole 142 provided on the folder body 101 at a corresponding position to the stopper engaging hole 141, and a stopper 143 which makes engagement with the stopper engaging hole 141 by passing through the stopper through hole 142 and which is provided on the fixing plate 105.

20 The fixing plate 105 is of sheet metal and having the same rectangular-shaped as the configuration of the base member 102a. The fixing plate 105 has the bent members 131 and each of which is formed by cutting near the corner of the fixing plate 105 to take an upright posture. The bent
25 members 131 are bent parallel to the face of the fixing plate 105 at the height which totals the thicknesses of the folder body 101 and binding fastener 102 to face the same direction. The bent member 131 makes its tip portion 131a a



little bent upward. Similarly the center of the fixing plate 105 is cut toward the opposite direction to the bent member 131 to form a stopper 143 which can make abutting engagement with both the inner face of the stopper through
5 hole 142 and the inner face of the stopper engaging hole 141.

The back cover 101b of the folder body 101 is provided with a through hole 101d for the bent member 131 near the corner thereof at the position corresponding to the bent
10 member 131. The engaging hole 132 is arranged on the base member 102a to be brought into coincidence with the through hole 101d. At the center of the base member 102a provided is the engaging hole 141 at the position corresponding to the stopper 143. The stopper through hole 142 is arranged
15 on the folder body 101 to be brought into coincidence with the engaging hole 141. The through hole 101d is approximately the same in width as the bent member 131. The engaging hole 141 and the stopper through hole 142 is about the same in width as the stopper 143. As a result of
20 these widths, the binding fastener 102 is free from slippage toward right or left when fixed to the folder body 101. The through hole 101d and the stopper through hole 142 are so formed on the folder body 101 that the stopper 143 closely attaches to the inner faces of the stopper through hole 142
25 and the through hole 101d with an upright portion 131b of the bent member 131 closely attached to the inner face of the through hole 101d.

With the above-mentioned arrangement, the binding



fastener 102 is fixedly attached to the folder body 101 by the fixing plate 105. First put the fixing plate 105 to the outer face of the folder body 101. Next, insert the bent member 131 and the stopper 143 into the through hole 101d and the stopper through hole 142 respectively with the tip portion 131a of the bent member 131 faced to the upper edge 101u of the folder body 101 when the filing device is in use and the upright portion 131b closely adhered to the inner side of the through hole 101d. In this condition the stopper 143 is not inserted into the stopper engaging hole 141 while each of the bent members 131 is inserted into the engaging hole 132. Then move and slide the binding fastener 102 toward the down side of the folder body 101 with pushing the binding fastener 102 to the folder body 101. As a result of this sliding movement, the bent member 131 comes into engagement with the side edge 132a of the engaging hole 132 and the stopper 143 comes into engagement with the inner side of the stopper engaging hole 141 formed on the binding fastener 102 as well as the stopper through hole 142. As the binding fastener 102 is fixed with its bent member 131 facing to the upward when the filing fastener is in use, the weight acting on the binding fastener 102 is essentially sustained by four bent members 131.

In the eleventh embodiment, the binding fastener 102 is fixed to the folder body 101 with the bent member 131 engaged with the side edge 132a of the engaging hole 132 and the folder body 101 held between the binding fastener 102 and the fixing plate 105. When the filing device is to be



disposed, release the engagement of the stopper 143 with the engaging hole 141 by bending the stopper 143 to fold toward the folder body 101, namely, the stopper through hole 142. As a result of this release, the binding fastener 102 is brought into a condition of slidably movable. Then move the binding fastener 102 to the direction to which the tip 131a of the bent member 131 faces. The bent member 131 is released from the engagement with the engaging hole 132. The bent member 131 can be positioned at the center of the engaging hole 132. Lift the binding fastener 102 at the position to demount it from the folder body 101. Accordingly, the binding fastener 102 can be demounted from the folder body 101 without plastically deforming or destroying the bent member 131 which substantially fixes the binding fastener 102 to the folder body 101.

Referring to Fig. 30 through Fig. 32, the twelfth embodiment will now be explained.

In the twelfth embodiment, the shape and the numbers of the bent member and the stopper formed on the fixing plate are different from those of the eleventh embodiment.

More specifically, there are five bent members 231 and two stoppers 243. Concretely, four of the bent members 231 are formed by cutting near each of the four corners on the fixing plate 205 like the eleventh embodiment and another one is formed on the center of the fixing plate 205. The two stoppers 243 are formed by cutting near upside and downside at the center in the width of the fixing plate 205. In this embodiment, the height of the horizontal portion



243a of the stopper 243 is generally the same as the thickness of the folder body 201. The center of the tip on the horizontal portion 243a is partially raised up to form the raised portion 243b, which makes engagement with the binding fastener 202. As a result of this raised portion 243b provided on the stopper 243, the whole height of the stopper 243, i.e. the height of the portion which projects from the inner face of the folder body 201 becomes lower, thereby to lessen the sliding resistance when the binding fastener 202 is bound to the folder body 201. As a result of this, it becomes easy to move the binding fastener 202. Needless to say, the folder body 201 and the binding fastener 202 are provided with the engaging holes 232, 241 and the through holes 201d, 242 corresponding to the bent members 231 and the stoppers 243.

In addition the binding fastener 202 in accordance with the embodiment has two travel-restraining members 6 formed by cutting the base member 202a and bending it downward at the center in the width of the base member 202a and outside to the stopper engaging hole 241 along the longitudinal length thereof to prohibit the binding fastener 202 from moving along the width. The travel-restraining member 6 has a hanging length less than the thickness of the folder body 201. Corresponding to the travel-restraining member 6 on the folder body 201 is formed an elongated hole 206 having generally the same in width as the distance between outer faces of the travel-restraining member 6. In accordance with the arrangement which prohibits the movement along the



width, the bent member 231, the stopper 243, the engaging holes 232, 241, and the through holes 201d, 242 can have bigger clearance, thereby to make the processing of sheet metal easy.

5 Figs. 33 and 34 show the thirteenth embodiment of the invention.

 In the thirteenth embodiment, the binding fastener 302 is fixedly attached to the folder body 301 by using the fixing plate 305 arranged along the outer face of the folder
10 body 301. The folder body 301 is made of synthetic resin. Boundaries between the back and front covers 301b, 301a and the back and rear covers 301b, 301c are made thinner than the rest to form hinge sections 301d to facilitate opening and closing of the front and rear covers 301a and 301c.

15 The fixing plate 305 is rectangular-shaped and has a binding mechanism 303 and an engaging lock mechanism 304. The binding mechanism 303 comprises a pair of guide rails 335 as a guide holder provided on both up and down edges of the fixing plate 305 and which pass through the folder body
20 301 and project from the inner face thereof and an abutting member 336 which is provided on one longitudinal side of the fixing plate 305 and makes engagement with a through hole 301g of the folder body 301. The guide rails 335 are made by bending both sides of the fixing plate 305 of sheet metal
25 to form channel shapes facing each other. The horizontal portion 335a of the guide rail 335 is formed so as to project from the inner face of the folder body 301 as much as a length that the base member 302a can be inserted into

the folder body 301 from the inner face thereof when arranged along the folder body 301. The abutting member 336 is formed to have a height which can make engagement with the base member 302a to be engaged with the guide rail 335.

- 5 The guide holder is not limited to the shape of continuous rail but may be a plurality of rail-shaped member provided spaced apart.

The engaging lock mechanism 304 in the fixing plate 305 is a stopper 345 provided by cutting a part of the fixing
10 plate 305 as well as that of the twelfth embodiment. The stopper 345 faces to the side on which the abutting member 336 is formed and has a height of totaling the thicknesses of the folder body 301 and the base member 302a.

Corresponding to the fixing plate 305, on the back
15 cover 301b of the folder body 301 provided are a through hole 301e oblong with more width than length into which the guide rail 335 is to be inserted, a stopper through hole 301f into which the stopper 345 is to be inserted, and a through hole 301g into which the abutting member 336 is to
20 be inserted. In addition on the base member 302a provided is an engaging hole 302b corresponding to the stopper through hole 301f provided on the folder body 301.

With the arrangement, the binding fastener 302 is fixedly attached to the folder body 301 with both of the up
25 and down edges thereof slidably engaged with the guide rail 335 of the fixing plate 305 and one side edge of the binding fastener 302 engaged with the abutting member 336. More specifically, first put the fixing plate 305 along the outer

face of the folder body 301 with the guide rail 335 inserted into the oblong through hole 301e, stopper 345 into the stopper through hole 301f, and the abutting member 336 into the through hole 301g respectively. Next, insert the
5 binding fastener 302 into the guide rail 335 from the other side of the fixing plate 305 where the abutting member 336 is provided and move and slide the binding fastener 302 along the guide rail 335 until the binding fastener 302 makes abutting engagement with the abutting member 336. As
10 a result of this abutting engagement, the stopper 345 makes engagement with the engaging hole 302b of the binding fastener 302, thereby to prohibit the binding fastener 302 from moving the other end. Then the binding fastener 302 is fixedly attached to the folder body 301.

15 When the filing device is in use, the binding fastener 302 is supported by the guide rail 335 from the up and down sides and prohibited from moving along the direction of the thickness of the folder body 301, and is prohibited from moving left or right by the abutting member 336 and the
20 stopper 345. Accordingly, the binding fastener 302 is kept to be fixedly attached to the folder body 301 like fixed by means of a rivet or the like. On the other hand, when the filing device is to be disposed, release the engagement of the stopper 345 with the engaging hole 302b by plastically
25 deforming the stopper 345 toward the outer face of the folder body 301. The operation to bent the stopper 345 can be done easily with using a stick-shaped body such as a clamp member of the binding fastener 302 or a ballpoint pen



or the like. As a result of the release of the engagement, the binding fastener 302 comes into a condition movable toward opposite to the abutting member 336 along the guide rail 335. Then move and slide the binding fastener 302
5 toward opposite to the abutting member 336, thereby to demount the binding fastener 302 from the folder body 301. In this embodiment, as the binding fastener 302 is bound to the fixing plate 305 by only the guide rail 335 and the stopper 345, the binding force which acts on the binding
10 fastener 302 is quite small when it comes into a movable condition compared to the strength with which the folder body 301 is bound to the binding fastener 302 by rivets. As a result of this, small force will do to move the binding fastener 302. In addition, as the folder body 301 is
15 strengthened by the fixing plate 305 attached to the back cover 301b thereof, the folder body 301 of synthetic resin can have generally the same rigidity as that of cardboard.

This invention is not limited to the embodiments described in detail hereinabove. In each of the above-
20 mentioned embodiments, the folder body is explained as of paper, but may be of polypropylene or rigid vinyl chloride. In addition, the folder body is explained as comprising the front cover, the back cover and the rear cover, but may comprise one board such as a paper clip or a clip board. In
25 this case, the position at which the binding fastener may be the same as the conventional one.

The arrangement of the binding fastener may be applied to a ring type such as a loose-leaf type, so called a Z-type



where papers are held between a clamp member and a base member supporting the clamp member with the clamp member manipulated by a lever, or other types which are well-known in the art in addition to the above-described type where the clamp member having a sliding rod is removably held by a pipe-shaped binding rod mounted to a base member. Further, the binding fastener may be attached to the rear cover near the boundary to the back cover in addition to the back cover.

10 The arrangement of the invention is not limited to the drawings, but other modifications can be applied without departing from the spirit of the invention.

POSSIBLE APPLICATIONS IN INDUSTRY

15 As explained in detail hereinabove, the filing device of the invention is suitable for use as an environment conscious filing device which makes it easy to be separated and collected according to the material with considering reuse of the resource when disposed.

20

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This Sheet Has Been Replaced



CLAIM:



- A filing device in which a binding fastener fixedly attached to a folder body can be demounted from the folder body with accompanying plastic deformation or destruction of the parts of the filing device, wherein said binding fastener is fixedly
- 5 attached to the folder body by a binding mechanism which fastens the binding fastener to the folder body and which enables the binding fastener to be released from the folder body by a relative movement of the binding fastener to the folder body, and an engaging lock mechanism which prohibits said relative movement, said filing device being characterized in that the binding mechanism comprises a hook-shaped bent
- 10 portion provided on either one of the folder body or the binding fastener, and an engaging hole provided on the other, in which the hook-shaped bent portion inserted into the engaging hole is brought into engagement with an opening edge of the engaging hole by the relative movement of the folder body to the binding fastener.



ABSTRACT

The filing device in which a binding fastener 2 fixedly attached to a folder body 1 can be demounted from the folder body 1 with accompanying plastic deformation or destruction of the parts of the filing device, and is characterized by that the binding fastener 2 is fixedly attached to the folder body 1 by a binding mechanism 3 which fastens the binding fastener 2 to the folder body 1 and which enables the binding fastener 2 to be released from the folder body 1 with a relative movement of the binding fastener 2 to the folder body 1, and an engaging lock mechanism 4 which prohibits the relative movement.

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Fig. 1

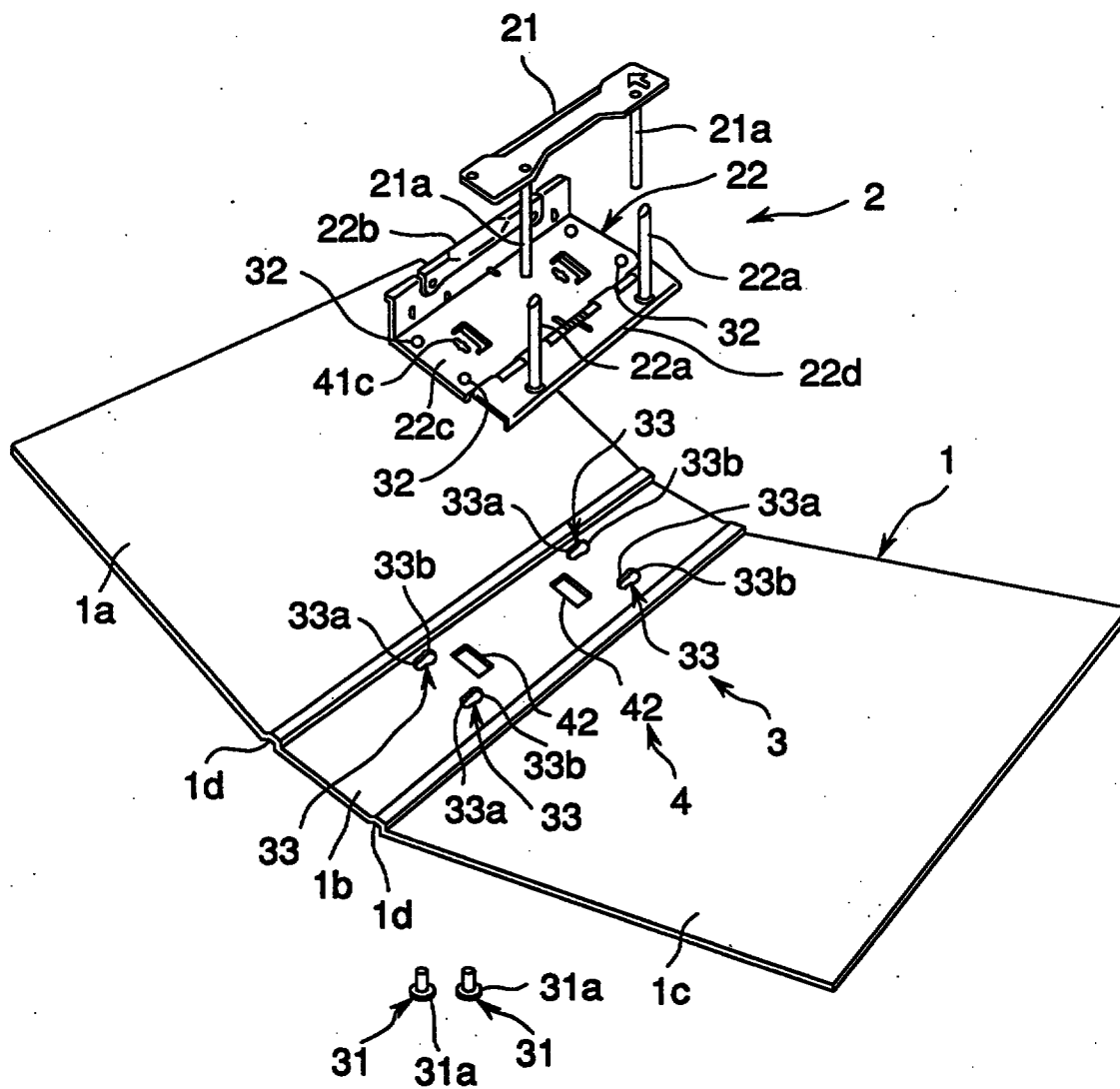


Fig. 2

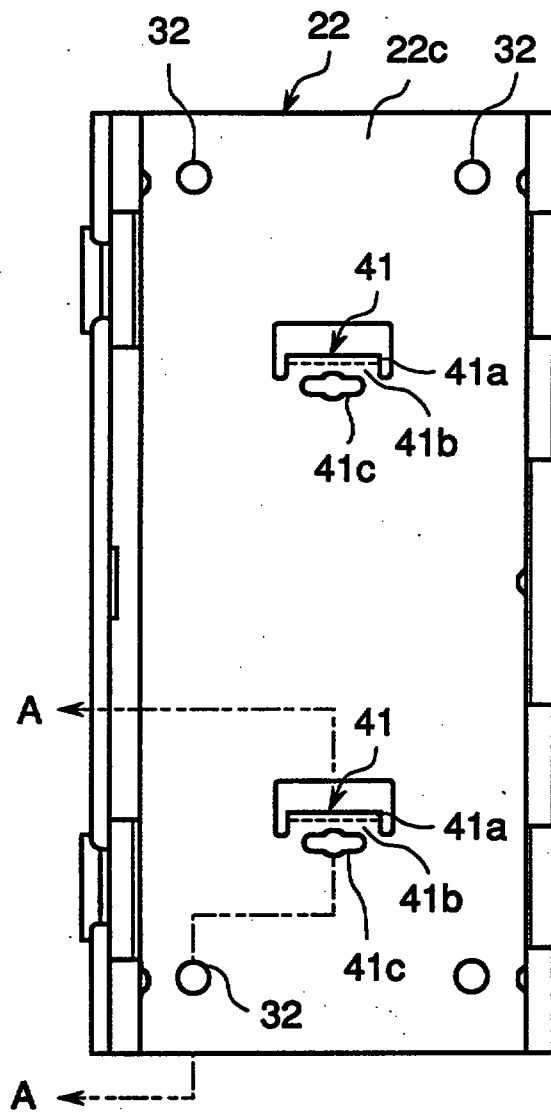


Fig. 3

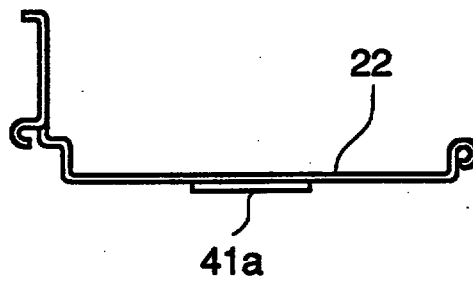


Fig. 4

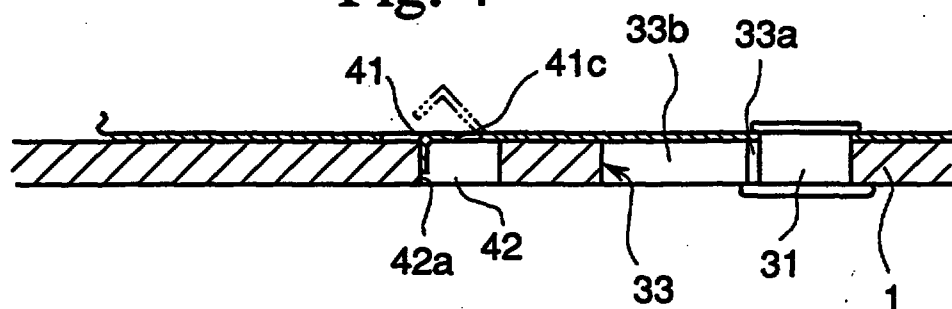


Fig. 5

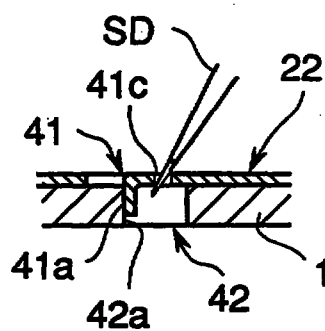


Fig. 6

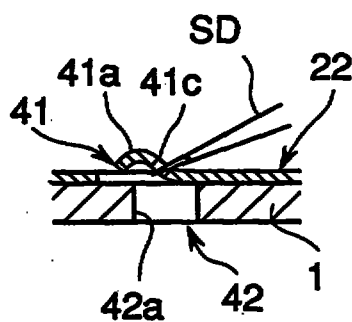


Fig. 7

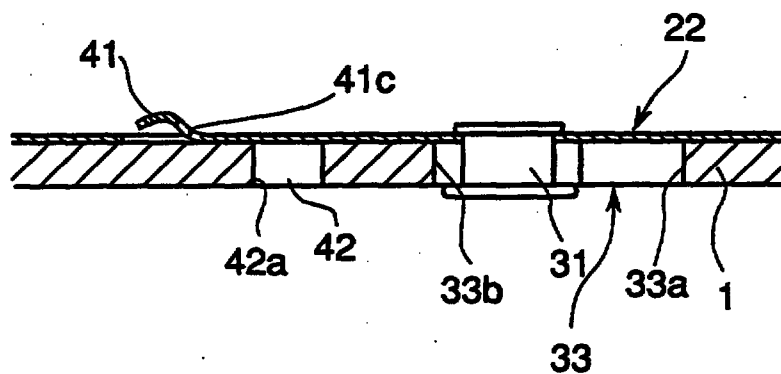


Fig. 8

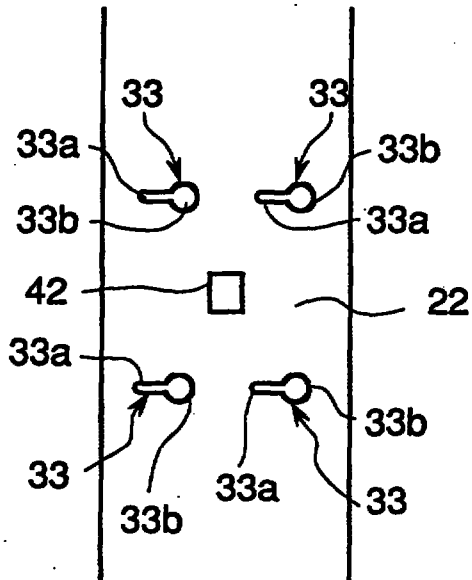


Fig. 9

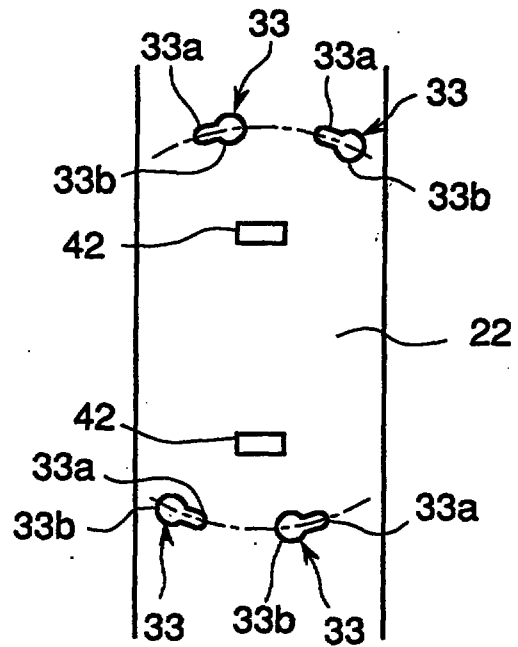
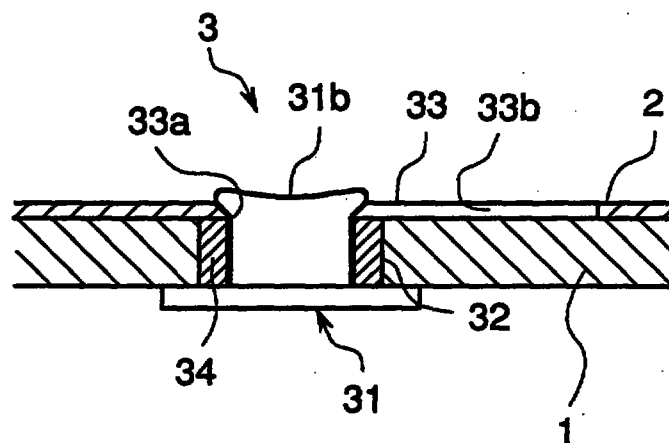


Fig. 10



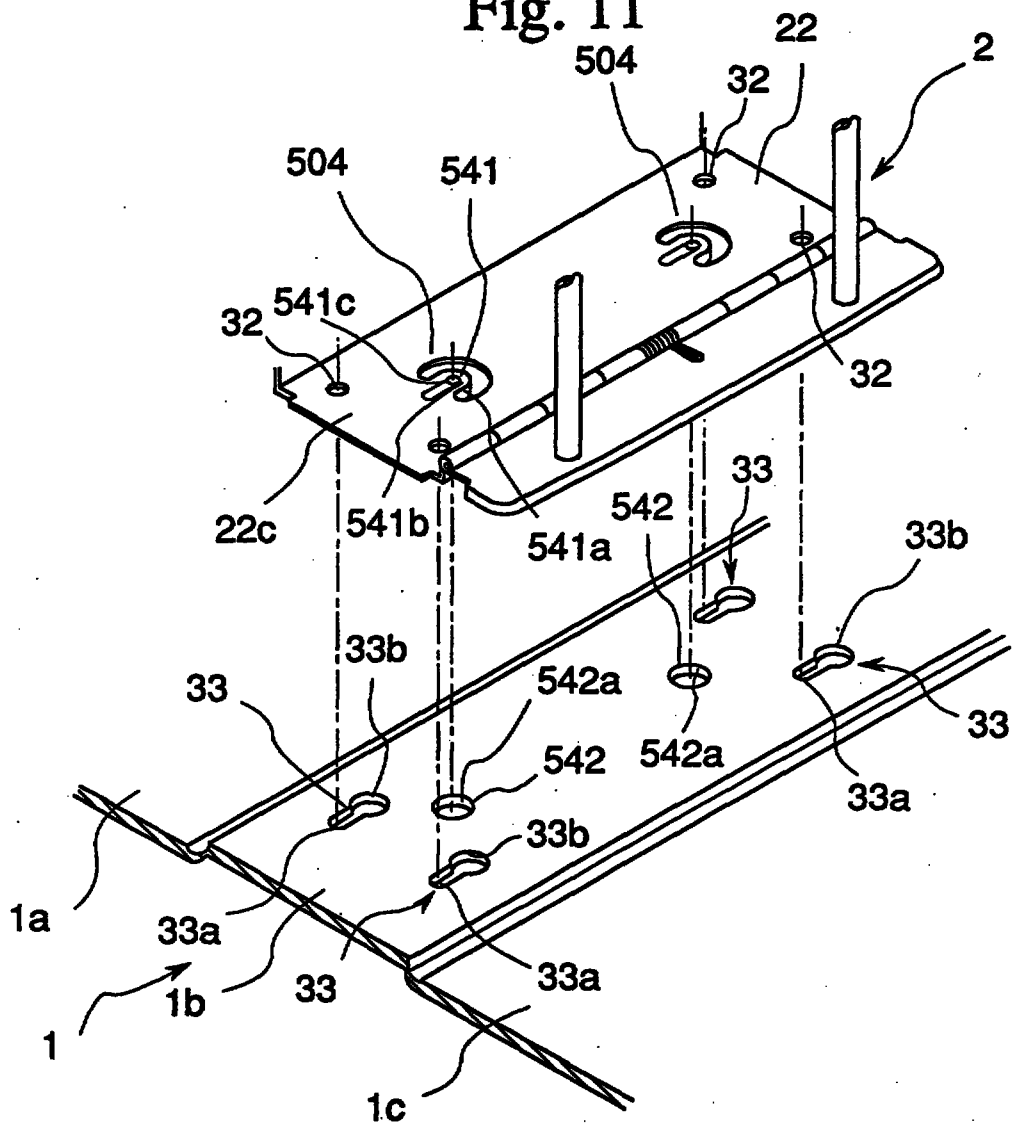


Fig. 12

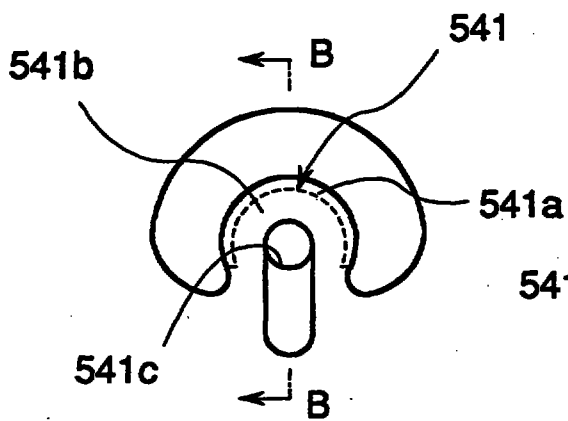
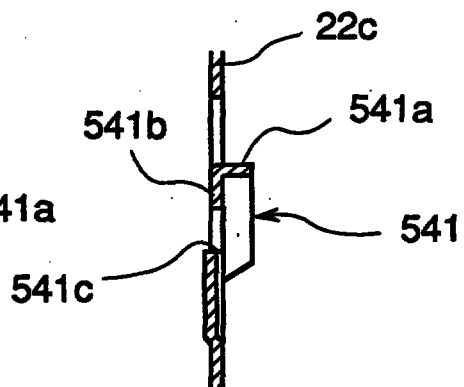


Fig. 13



6/17

Fig. 14

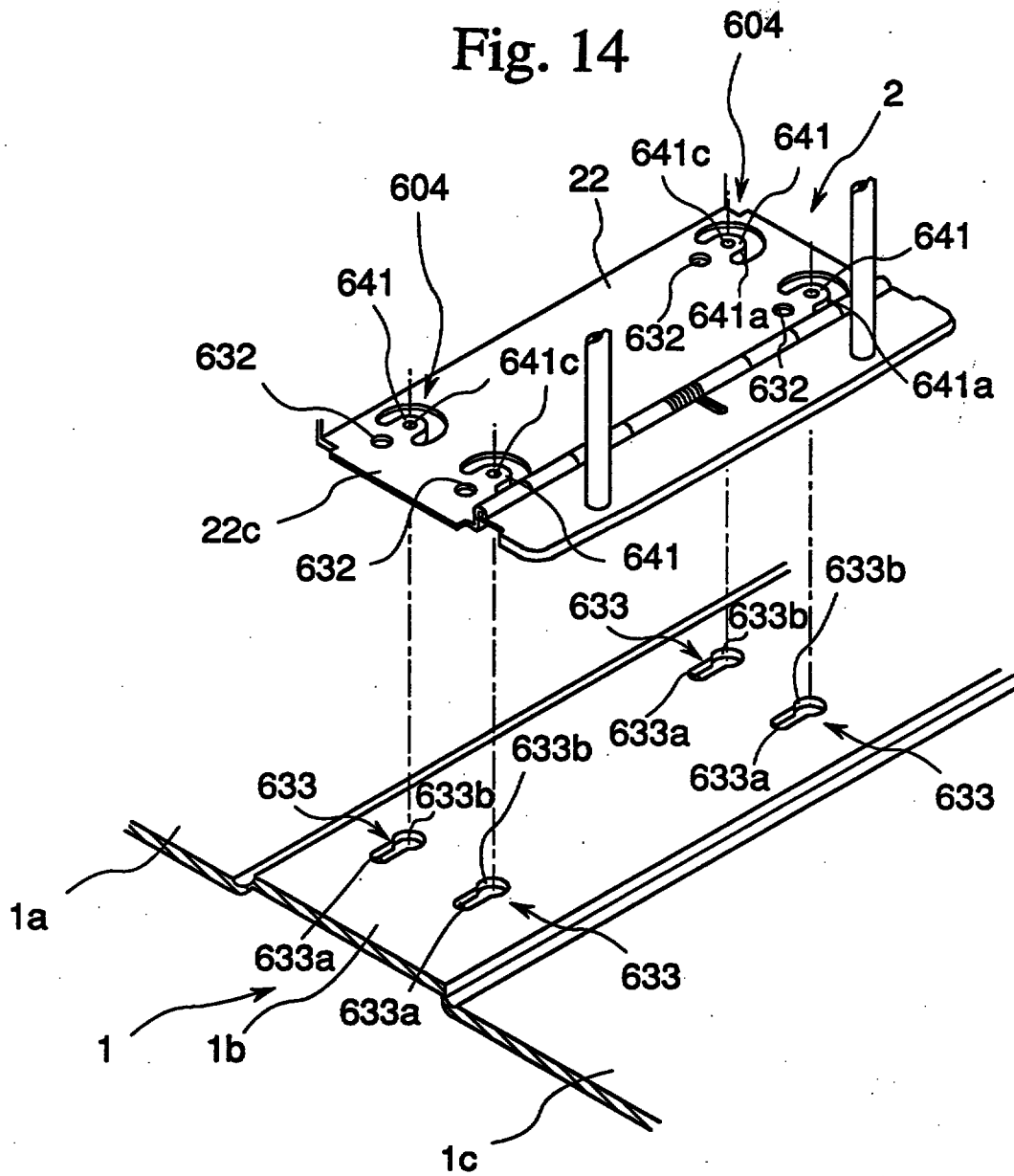


Fig. 15

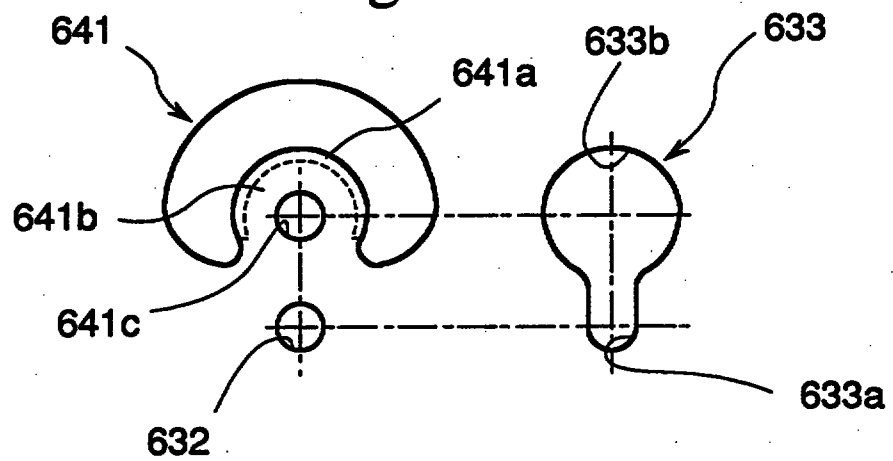


Fig. 16

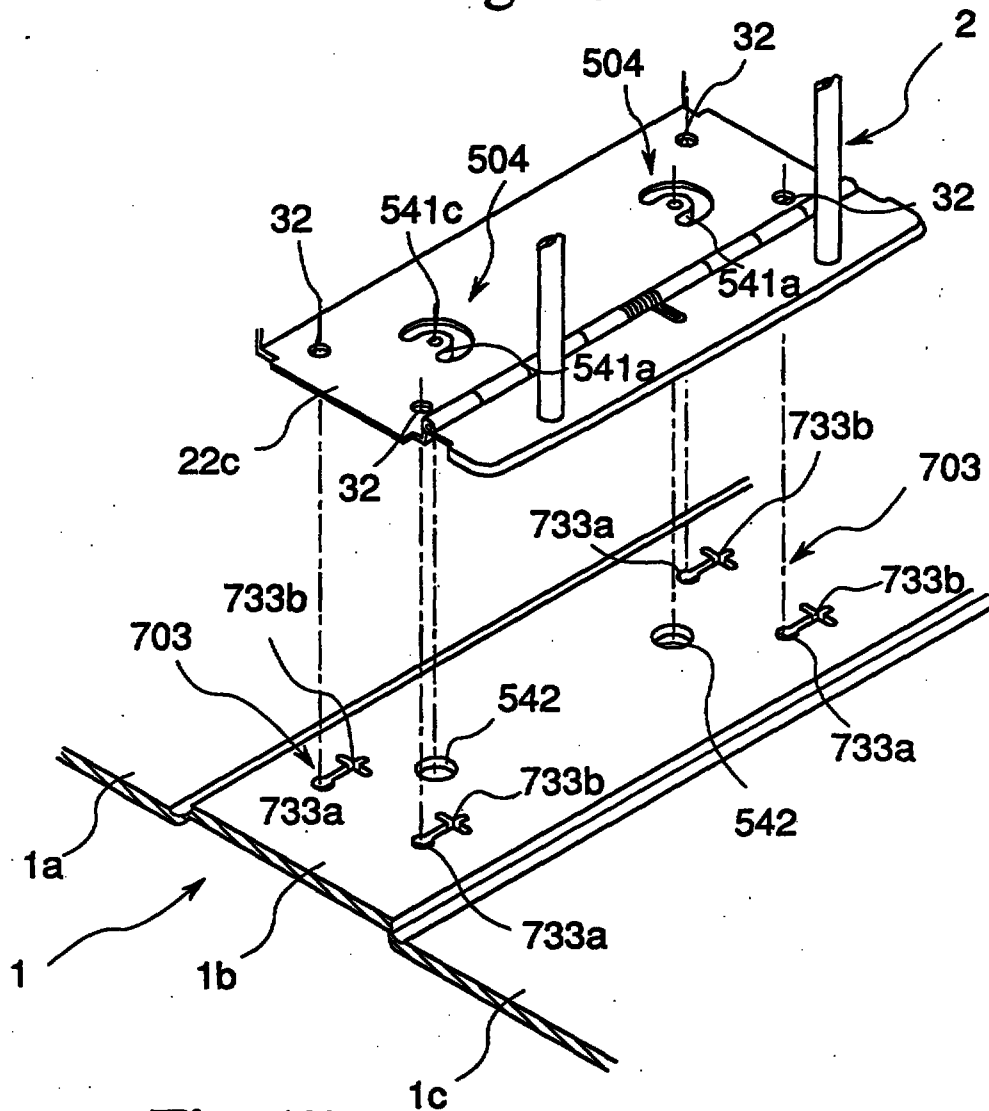


Fig. 17

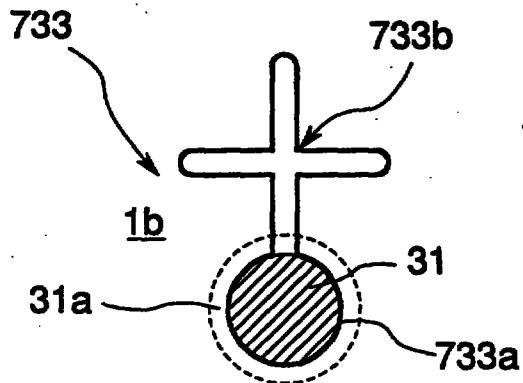


Fig. 18

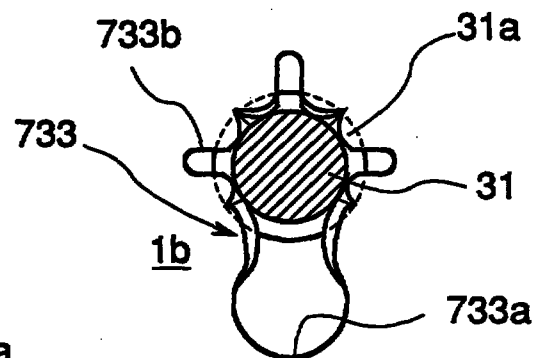


Fig. 19

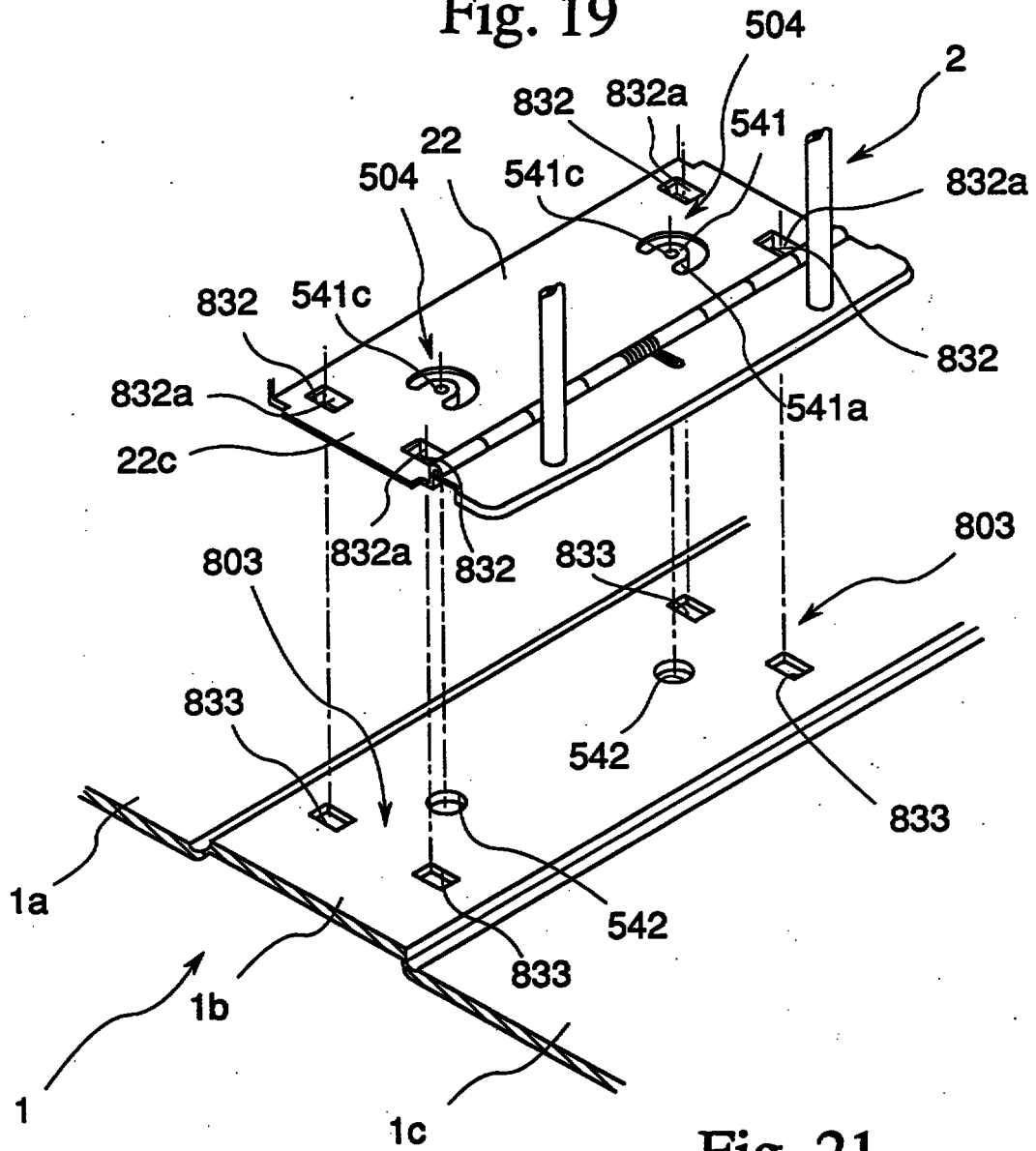


Fig. 20

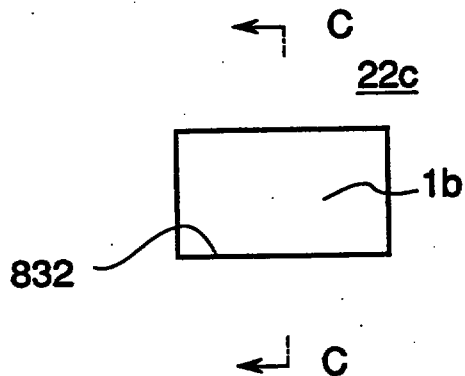
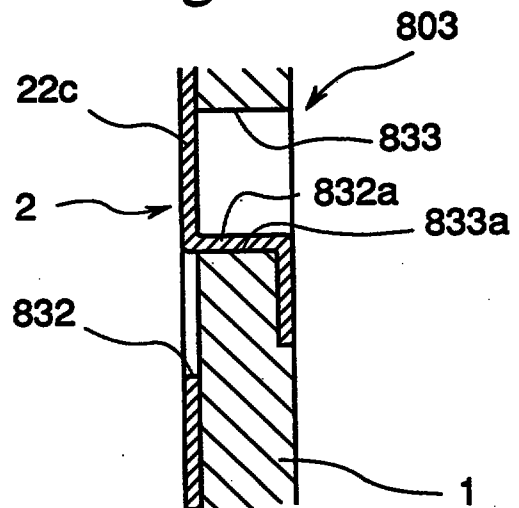


Fig. 21



9/17

Fig. 22

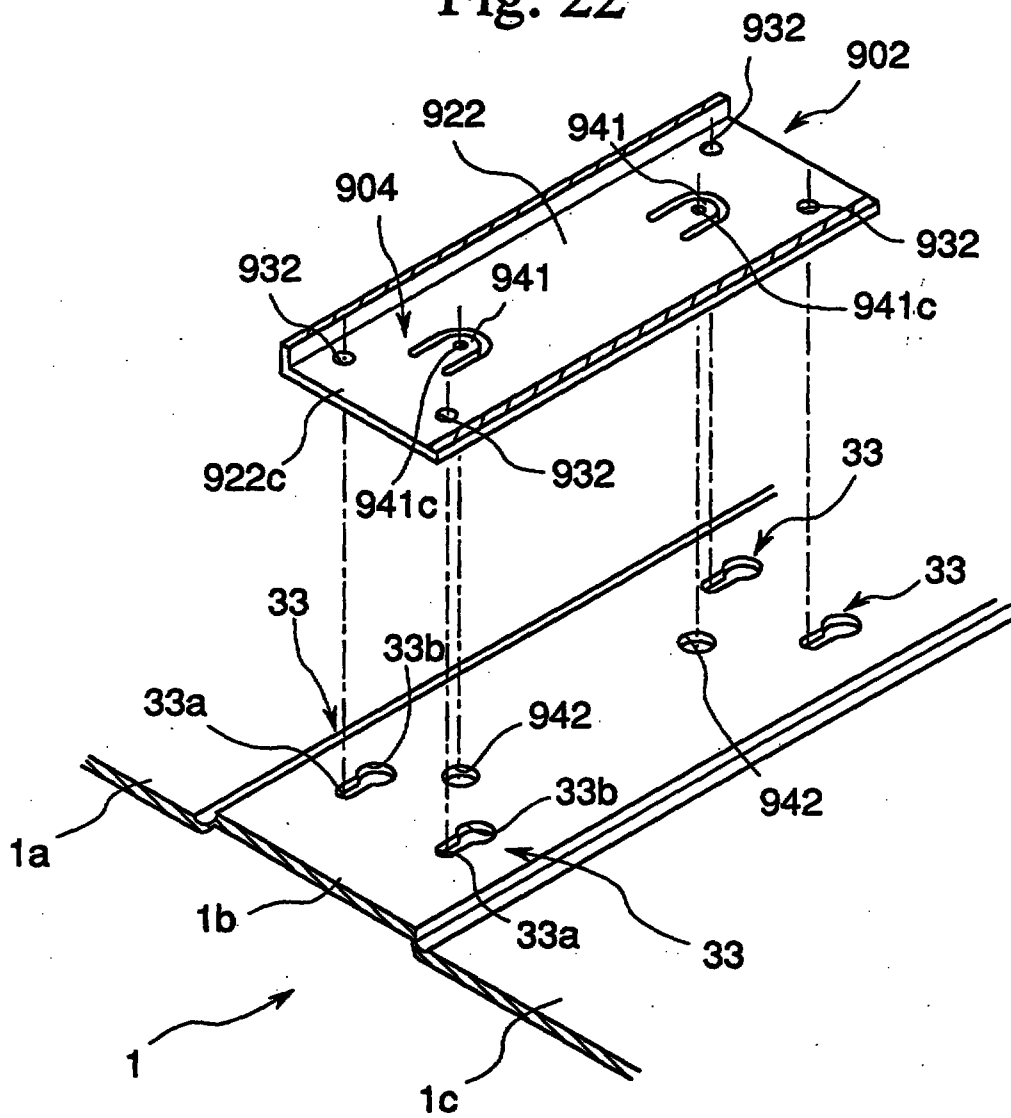


Fig. 23

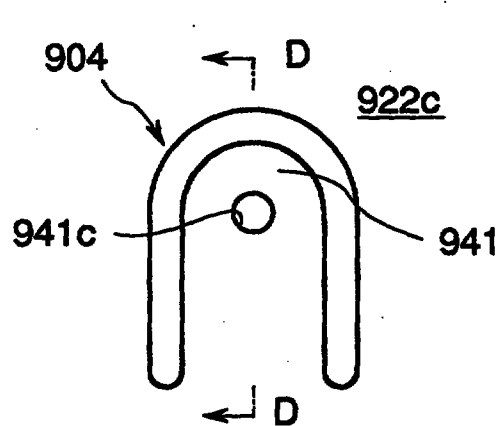


Fig. 24

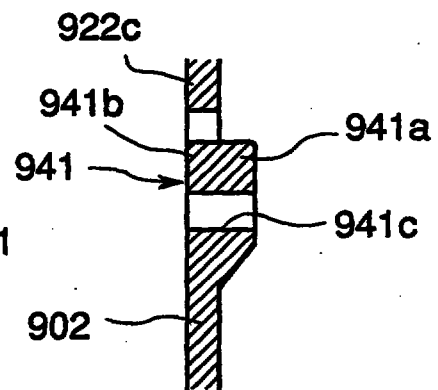


Fig. 25

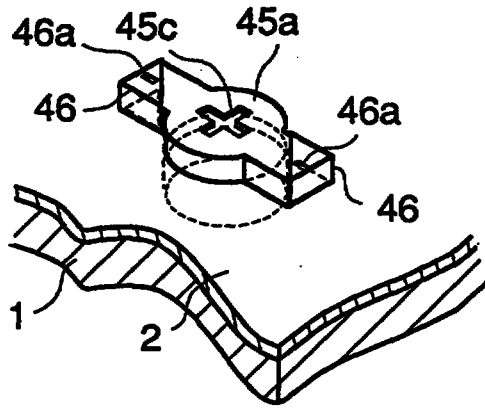


Fig. 26

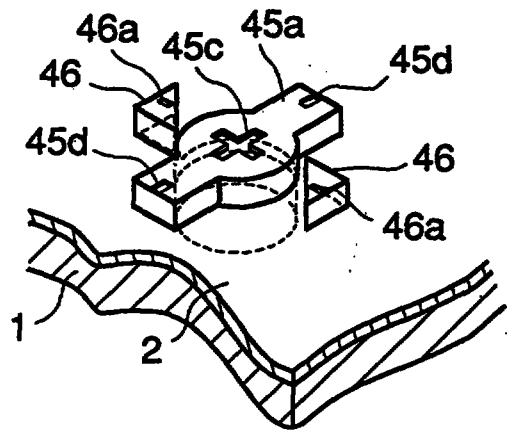


Fig. 27

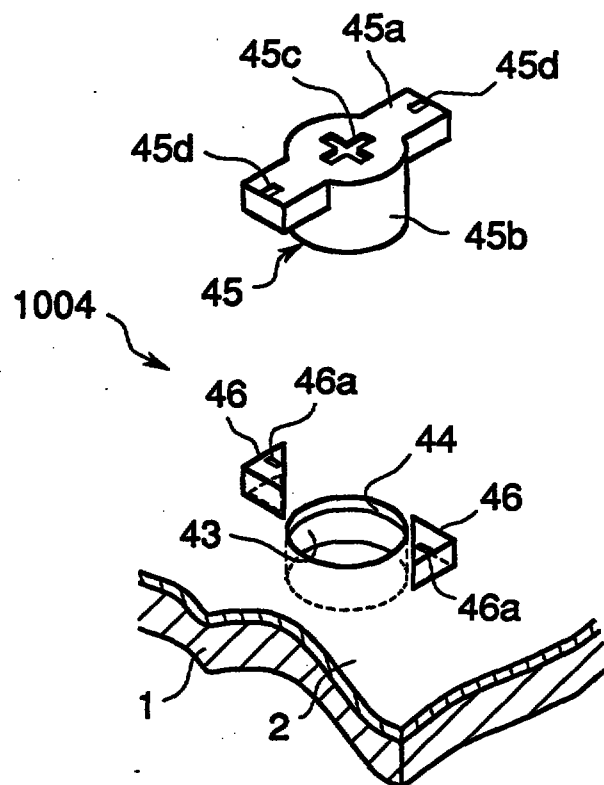


Fig. 28

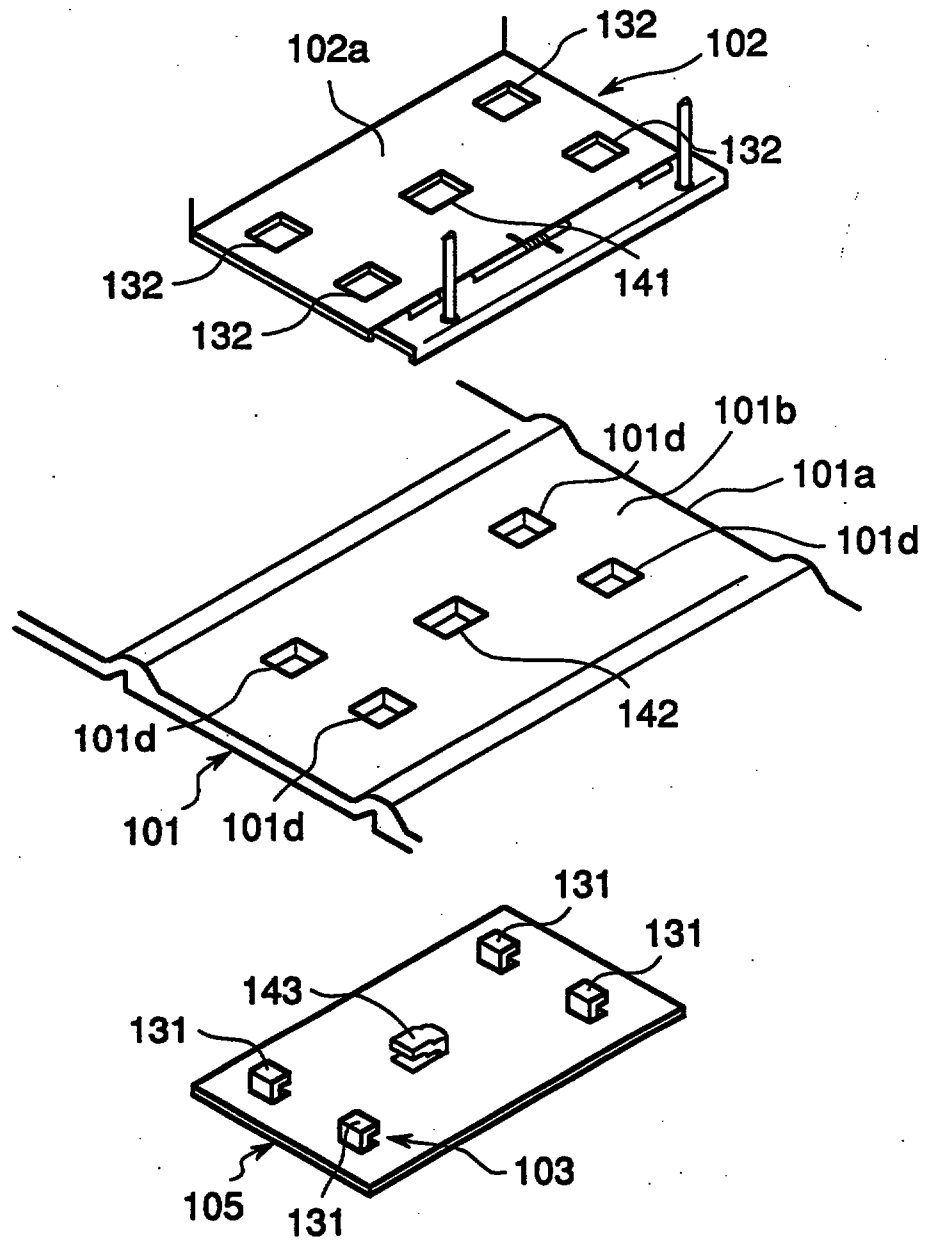


Fig. 29

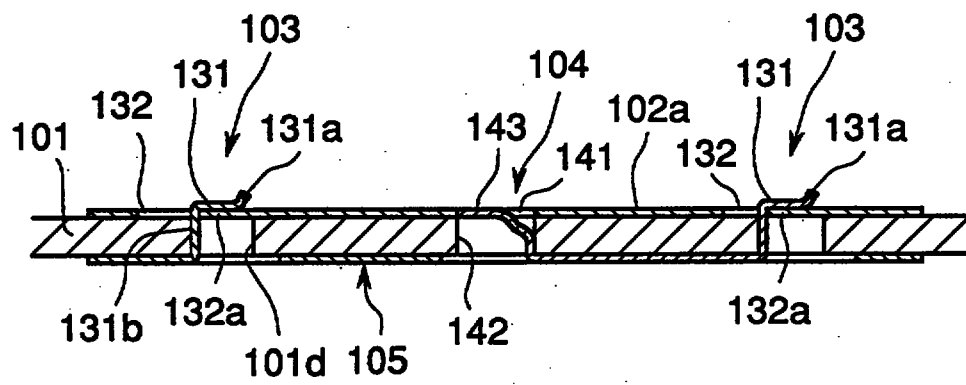


Fig. 30

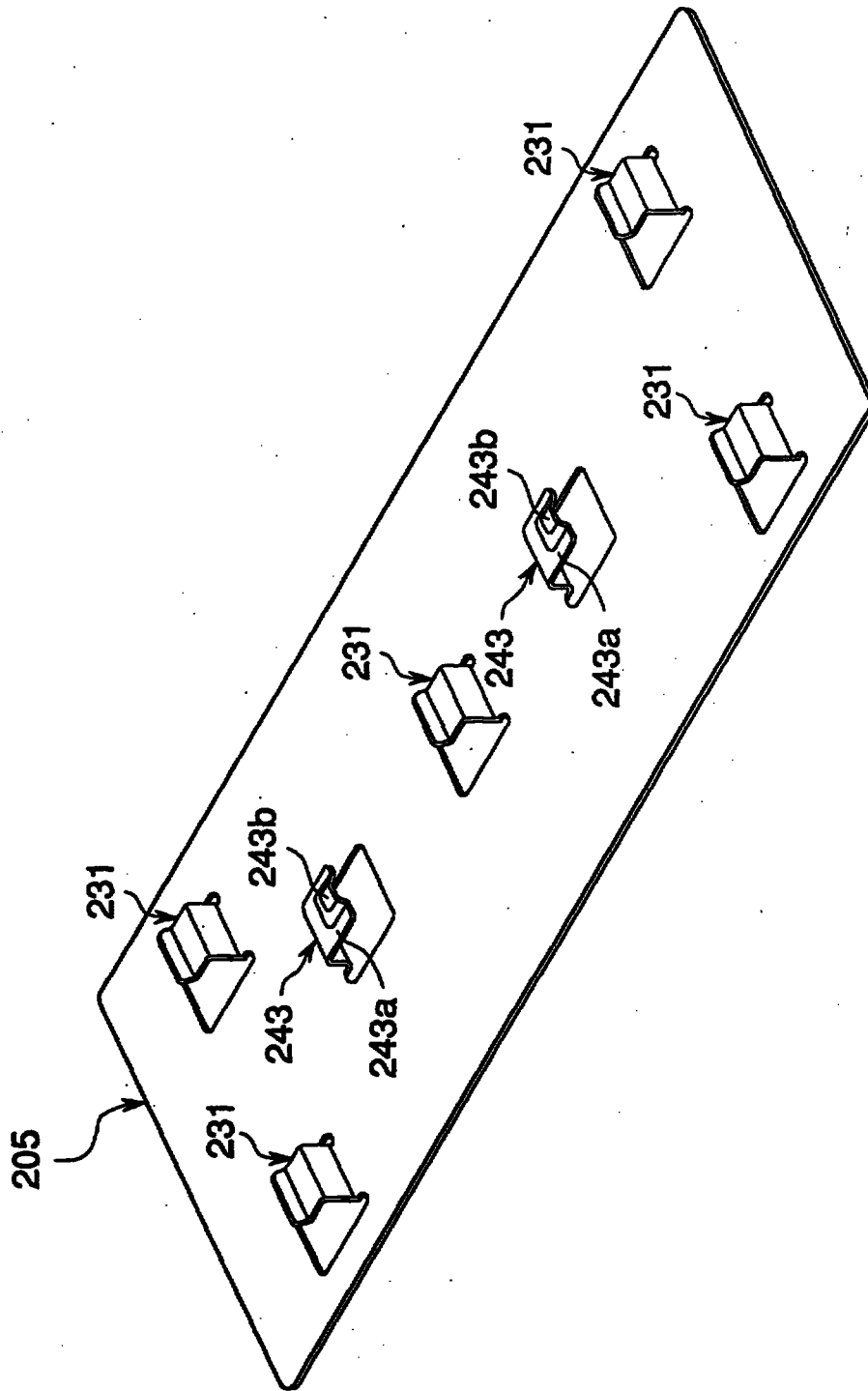


Fig. 31

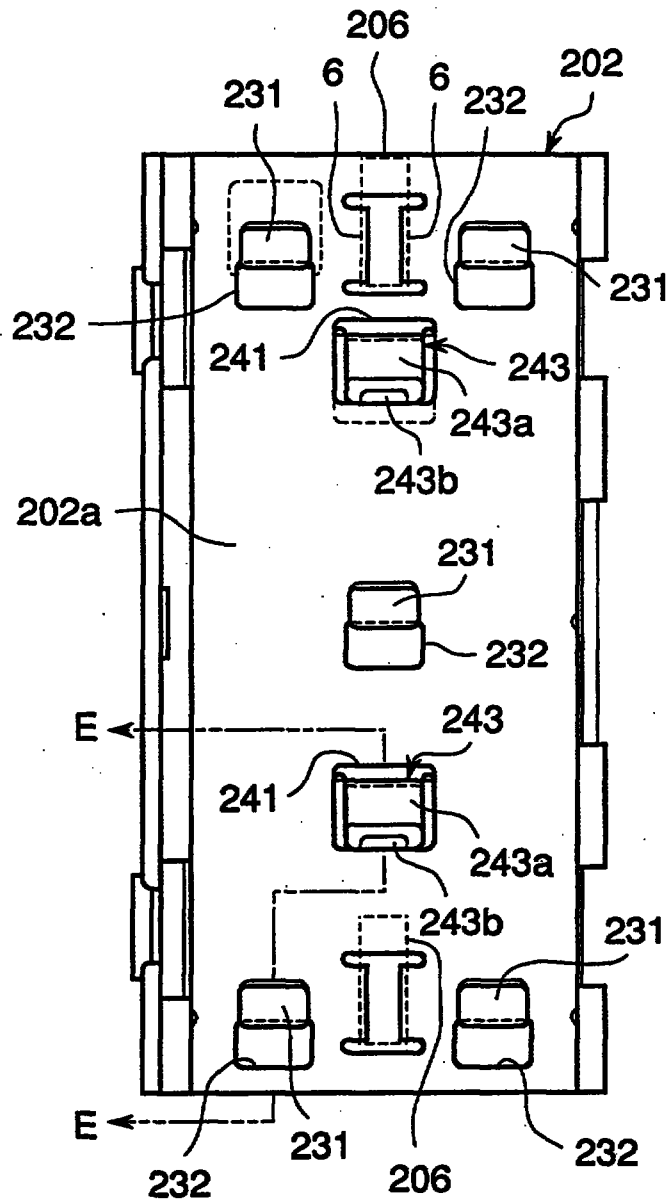


Fig. 32

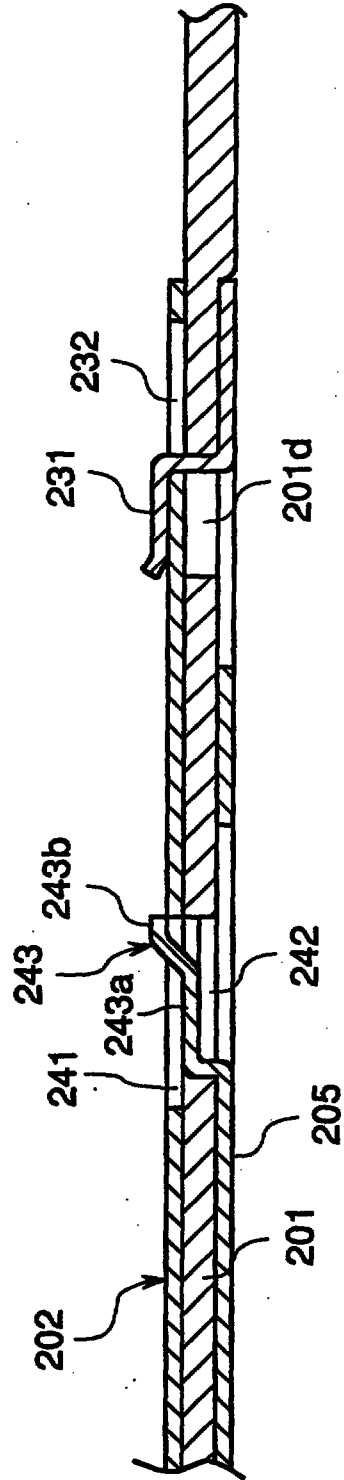


Fig. 33

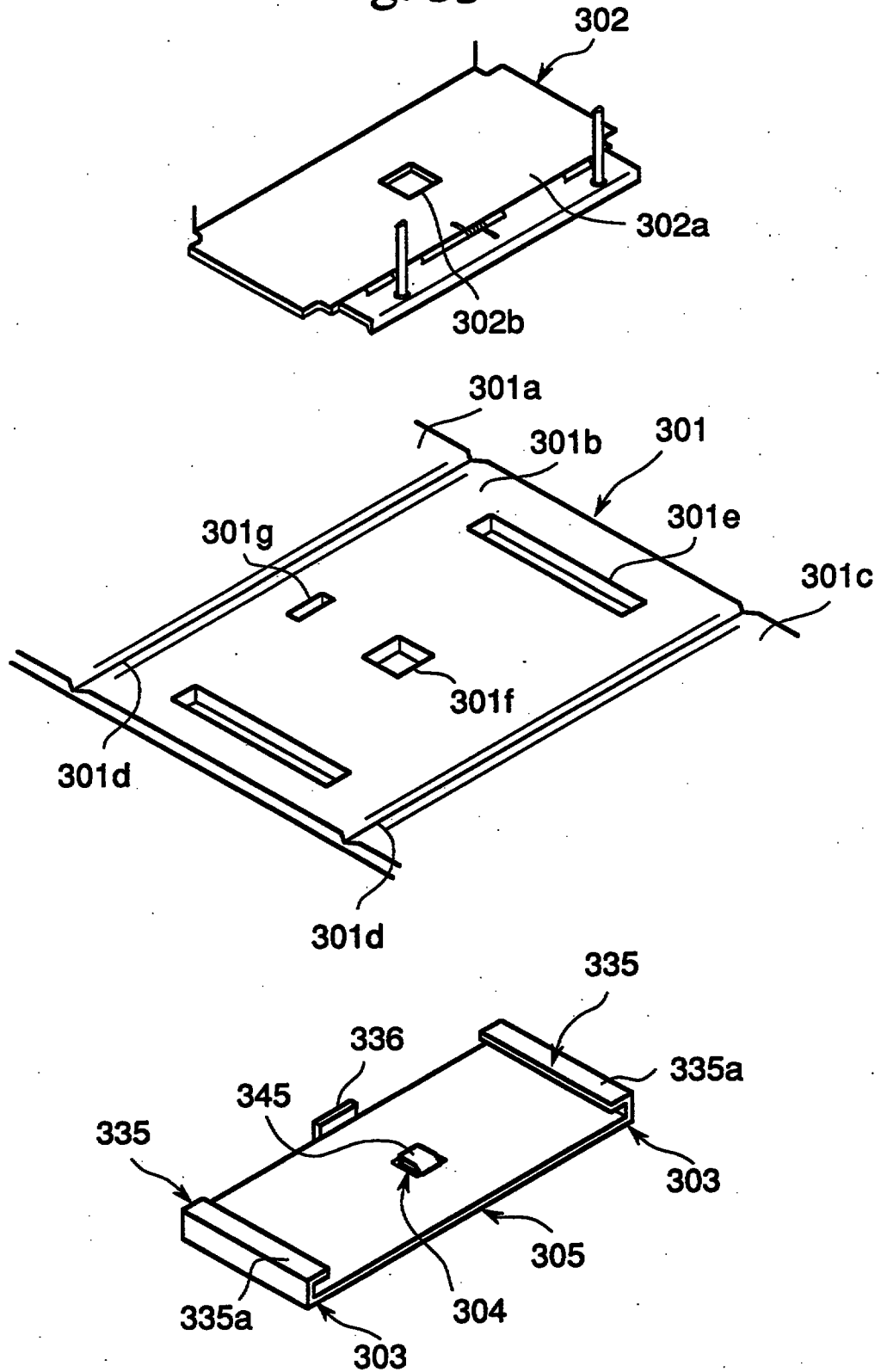
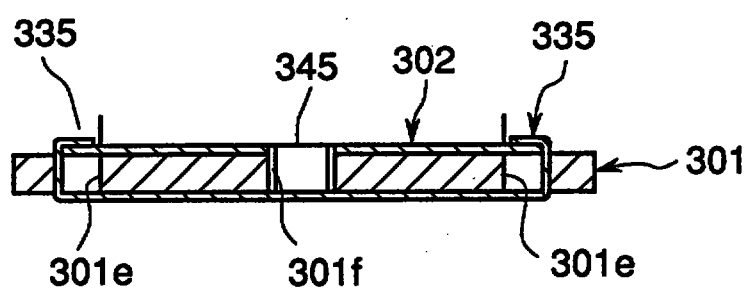


Fig. 34



1

SPECIFICATION

REPLACEMENT SHEETS		SG
☒	Description :	paged 1.. to paged 4..
☒	Claim(s) :	paged 4.. to paged 5..
☐	Drawing(s) :	paged to paged
☒	Abstract :	paged 4.. to paged 5..
DATE OF RECEIPT ..3/4/77.....		

FILING DEVICE

FIELD OF THE ART

5 This invention relates to a filing device for a binder or a file suitable for storage or keeping in such a manner that the papers or sheets can easily be attached to or removed from by means of a binding fastener fixed to the inside of the filing device.

10 BACKGROUND ART

 The filing device of this kind conventionally comprises a folder body having a front cover, a back cover and a rear cover, and a binding fastener fixed to the inner face of the back cover by, for example, rivets. The folder body is made
15 of rigid sheet material such as cardboard or synthetic plastics and the binding fastener is of a sheet metal or rigid synthetic plastics. The binding fastener made of metal is fixed to the folder body made of paper or synthetic resin by means of a rivet made of metal and is so structured
20 not to easily be demounted from the folder body by the weight of the bound papers.

 Concern over the global ecological issues has recently been growing. Considering such a social trend, when products are to be disposed, the products are beginning not
25 just to be incinerated but treated as follows; first broken apart into each parts of the same material, then collected according to the parts classified based on whether the material is reusable or not, or whether the material should

REPLACEMENT SHEET
03 APR 1997

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be burned or not, and finally provided with a treatment according to each of the material for the reuse of the material of the products.

For the above-mentioned filing device when it is to be disposed, the binding fastener and the rivet made of metal is reusable if collected and melted, and the folder body made of paper is reusable as a recycled paper if collected. However, if the binding fastener is securely fixed to the folder body by the rivet, the filing device may not be divided into different material on the spot where the filing device has been used, thereby to cause difficult collection of the parts according to the material. That is, there is no other way but to plastically deform the rivet by means of a tool such as a drill or the like for demounting the binding fastener from the folder body. In offices where the filing devices are used or kept it is rare to ordinarily be furnished with the above-mentioned tools so that it may be costly to purchase the tool just for the disposal of the filing device, which makes it difficult to separate and collect the filing device according to the material as mentioned above. In addition, if the operation to separate the filing device accompanies too much trouble, it may not be conducted because it is not obligatory to separate and collect the filing device. There is also a problem that it involves risks to separate the filing device by using the tools like a drill.

The present invention has been accomplished to solve the above-mentioned problems. The object of the invention is

REPLACEMENT SHEET

03 APR 1997

to provide a filing device having such a structure that the binding fastener can be separated from the folder body without using a tool which is not ordinarily furnished.

DISCLOSURE OF THE INVENTION

5 To attain the above-mentioned object the invention has adopted the following structures. The filing device in accordance with the invention is a filing device in which a binding fastener fixedly attached to a folder body can be demounted from the folder body with accompanying plastic
10 deformation or destruction of the parts of the filing device, and is characterized by that the binding fastener is fixedly attached to the folder body by a binding mechanism which fastens the binding fastener to the folder body and which enables the binding fastener to be released from the
15 folder body by a relative movement of the binding fastener to the folder body, and an engaging lock mechanism which prohibits the relative movement.

The filing device in accordance with the invention includes the one which binds sheet material such as papers
20 or the like by inserting a pipe-shaped member into a hole provided on the neighborhood of the side edge of the sheet material or by holding the sheet material between binding fasteners. The sheet material may include sum papers or continuous papers of a predetermined size, bags of synthetic
25 resin which can accommodate floppy disks or compact disks or the like, and a sheet of synthetic resin. The folder body of these filing device is representatively of card board, but may be a sheet of plate-shaped. The folder body may be

REPLACEMENT SHEET

03 APR 1997

of synthetic resin other than of paper. The binding fastener may have such a structure that a hole is formed on the object to be bound and a pipe or a ring or the like are inserted into the hole or that one end of the object to be bound is pressed from the face thereof to the folder body. The binding fastener may be of metal or synthetic resin according to the weight of the amount of the object to be bound.

The binding mechanism in accordance with the invention binds the folder body and the binding fastener with supporting the load acting on the binding fastener while the engaging lock mechanism prohibits the folder body and the binding fastener from relative movement, and makes it possible to demount the binding fastener from the folder body when the prohibition of the relative movement is released. To bind does not mean to fix the binding fastener to the folder body semi permanently but means to maintain the condition of fixation or fixedly attachment under a predetermined condition. The engaging lock mechanism does not necessarily have such a high rigidity as the binding mechanism does because it does not support the load acting essentially on the binding fastener but just prohibits the relative movement. The relative movement in accordance with the invention does not mean the movement perpendicular to a face where the folder body and the binding fastener are bound but means the parallel movement horizontal to the above-mentioned face. The relative movement is preferably toward other direction than that of the load acting. In

REPLACEMENT SHEET

03 APR 1997

this case the movement may draw straight or curve.

The binding mechanism is preferably represented by;

(1) that comprising a mounting hole provided either one of the folder body or the binding fastener and having a small-circular portion and a big-circular portion arranged continuously to the small-circular portion, a through hole provided on the other and having a diameter corresponding to the small-circular portion, and a rivet passing through both of the through hole and the small-circular portion,

(2) wherein instead of the mounting hole comprising the small-circular portion and the big-circular portion, the mounting hole comprises a rivet through portion and a cross slit portion having a slit for easy destruction arranged continuously to the rivet through portion,

(3) that comprising a hook-shaped bent portion provided either one of the folder body or the binding fastener and an engaging hole provided on the other, wherein the hook-shaped bent portion inserted into the engaging hole is brought into engagement with an opening edge of the engaging hole by the relative movement of the folder body to the binding fastener,

(4) that comprising a bent member passing through the folder body and projecting out of the inner face thereof and which is provided on a fixing plate arranged along the outer face of the folder body, and an engaging hole provided on the binding fastener, wherein the bent member is brought into engagement with the engaging hole by the relative movement of the folder body to the binding fastener, and

REPLACEMENT SHEET

03 APR 1997

(5) that comprising a pair of guide holders provided on both up and down edges of the fixing plate arranged along the folder body and which pass through the folder body and project from the inner face thereof, and an abutting member
5 which is provided on one longitudinal side of the fixing plate and which passes through the folder body and project from the inner face thereof wherein both of the up and down edges of the fixing plate is brought into engagement with the abutting member.

10 In combination with the above binding mechanism (1), (2), and (3), the engaging lock mechanism is preferably represented by that comprising an engaging hole provided on the folder body and a stopper provided on the binding fastener with the front bent portion thereof inserted into
15 the above-mentioned engaging hole. The stopper may be an oblong member with its free end just bent, or a curved-wall-shaped member having a semicircular free end and a front bent portion elongated from the edge of the semicircular free end. In this case the front bent portion is brought
20 into engagement with a circular locking hole. In case the binding fastener is of synthetic resin, an elastically transformable stopper is provided with a thick portion at its tip, which makes engagement with a locking hole provided on the folder body. The engaging lock mechanism may also be
25 represented by that comprising a locking hole provided on the folder body, a through hole provided on the binding fastener, a stopper engaged with the locking hole with a head portion thereof engaged with an opening edge of the

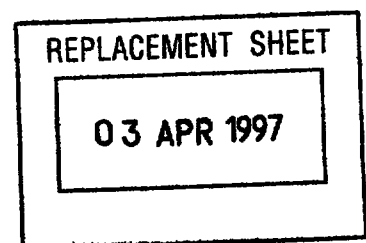
REPLACEMENT SHEET

03 APR 1997

through hole and with a leg portion passing through the through hole, and a stopper engaging portion which prohibits the stopper from being pulled out by engaging with the head portion when the stopper rotates.

5 The engaging lock mechanism to be combined with the binding mechanism in the above-mentioned (4), or (5) preferably comprises an engaging hole provided on the binding fastener, a through hole providing on the folder body corresponding to the engaging hole, and a stopper
10 provided on the fixing plate and which makes engagement with the engaging hole by passing through the through hole.

 In accordance with the arrangement, while the engaging lock mechanism is functioning, i.e. the folder body and the binding fastener are prohibited from relative movement, the
15 folder body and the binding fastener are fastened by the binding mechanism and papers or the like can be bound by means of the binding fastener. If the engaging lock mechanism is halted to function in this state, the folder body and the binding fastener are brought into a movable
20 condition relative to each other. More specifically, although the folder body and the binding fastener are bound by the binding mechanism, the state in which the folder body and the binding fastener are bound can be released by the relative movement of the folder body to the binding
25 fastener. That is, when the binding fastener is to be demounted from the folder body, halt in the function of the engaging lock mechanism makes it possible to release the binding fastener from the folder body without plastically



deforming or destroying the binding mechanism which binds the binding fastener. As a result of this, the binding fastener can be demounted from the folder body without plastically deforming or destroying the binding mechanism
5 which essentially fastens the binding fastener to the folder body. Then the folder body and the binding fastener can be separated without accompanying troublesome or risky operation, thereby to be recycled or effectively disposed.

BRIEF DESCRIPTION OF THE DRAWINGS

10 Figure 1 is an exploded perspective view showing a preferred embodiment of this invention, Figure 2 is a plane view showing the principal portion of the embodiment, Figure 3 is a front view showing the principal portion of the embodiment, Figure 4 is a sectional view taken along line A-
15 A of Figure 2, Figures 5 to 7 show processing steps to dispose the filing device of the embodiment, Figure 8 is a plane view showing an arrangement of the hole in the binding mechanism according to another preferred embodiment of this invention, Figure 9 is a plane view showing an arrangement
20 of the hole in the binding mechanism according to further preferred embodiment of this invention, Figure 10 is a sectional view showing the binding mechanism according to further preferred embodiment of this invention, Figure 11 is a perspective view showing the engaging lock mechanism
25 according to further preferred embodiment of this invention, Figure 12 is a plane view showing the principal portion of the embodiment, Figure 13 is a sectional view taken along line B-B of Figure 12, Figure 14 is a perspective view

REPLACEMENT SHEET

03 APR 1997

showing the engaging lock mechanism according to further
embodiment of this invention, Figure 15 is an explanatory
view showing the principal portion of the embodiment,
Figure 16 is a perspective view showing the binding
5 mechanism in accordance with further embodiment, Figure 17
is a sectional view showing the principal portion of the
embodiment, Figure 18 is an explanatory view showing the
function of the principal portion, Figure 19 is a
perspective view showing the binding mechanism in
10 accordance with further embodiment of this invention,
Figure 20 is a plane view showing the principal portion of
the embodiment, Figure 21 is a sectional view taken along
line C-C of Figure 20, Figure 22 is a perspective view
showing the engaging lock mechanism in accordance with
15 further embodiment of this invention, Figure 23 is a plane
view showing the principal portion of the embodiment,
Figure 24 is a sectional view taken along line D-D of
Figure 23, Figure 25 is a perspective view showing the
engaging lock mechanism in accordance with further
20 embodiment of this invention, Figures 26 and 27 are
explanatory views showing the function of the embodiment,
Figure 28 is a perspective view showing the binding and
engaging lock mechanisms in accordance with further
embodiment of this invention, Figure 29 is a sectional view
25 showing the embodiment, Figure 30 is a perspective view
showing the binding and engaging lock mechanisms in
accordance with further embodiment of this invention,
Figure 31 is a plane view showing the embodiment, Figure 32

REPLACEMENT SHEET

03 APR 1997

is a sectional view taken along line E-E of Figure 31, Figure 33 is a perspective view showing the binding and engaging lock mechanisms in accordance with further embodiment of this invention, and Figure 34 is a sectional
5 view showing the embodiment.

BEST MODES OF EMBODYING THE INVENTION

An embodiment of the invention will now be described with reference to Fig. 1 through 7.

The filing device showed in Fig. 1 comprises a folder
10 body 1, and a binding fastener 2 which is securely attached to the inner face, namely back face of the folder body 1. The folder body 1 is made of a sheet of cardboard, and has a front cover 1a, a back cover 1b, and a rear cover 1c. Hinge
15 sections 1d concaved from a front face toward a rear face are formed along the boundary between the back cover 1b and the front cover 1a and between the back cover 1b and the rear cover 1c for easy folding the front cover 1a and the rear cover 1c. The binding fastener 2 is fixedly attached
20 to the inner face of the back cover 1b at the longitudinal center thereof by a binding mechanism 3 and an engaging lock mechanism 4 to be described hereinafter.

The binding fastener 2 is well known in the art and has such an arrangement that papers are bound by a pair of pipe-shaped binding rods 22a into which a sliding rod 21a can be
. 25 removably inserted. That is, the binding fastener 2 comprises a base member 22 fixedly attached to the folder body 1 under a predetermined condition by both the binding mechanism 3 and the engaging lock mechanism 4, a movable

REPLACEMENT SHEET

03 APR 1997

side plate 22d pivotally connected to the base member 22 and having a pair of binding rods 22 projected on the inside thereof, and a clamp member 21 removably mounted to the above-mentioned binding rod 22a by the sliding rod 21a. The
5 arrangement for binding papers to the base member 22 in coaction with the binding rod 22a and the clamp member 21, and a locking device 22b for locking the clamp member 21 to the base member 22 or the like may be the same as well known in the art. Accordingly, no further explanation to the
10 arrangement is given here.

The base member 22 in accordance with the embodiment is of a suitable sheet metal. On a mounting member 22c of the base member 22 provided are a through hole 32 as the binding mechanism 3 into which a rivet 31 is inserted and a stopper
15 41 as the engaging lock mechanism 4 whose front is bent to form a front bent portion 41a. The through hole 32 is a small circle-shaped hole having generally the same in diameter as the rivet 31 and is arranged at a location in the neighborhood of each of the four corners of the
20 rectangular mounting member 22c. The stopper 41 is formed near upside and downside at the center of the width on the mounting member 22c with a base portion 41b of a small member cut out from the mounting member 22c kept flat to the mounting member 22c and a tip thereof bent toward the folder
25 body 1. A release hole 41c is formed on the base portion 41b of the stopper 41 for inserting a screwdriver or the above-mentioned sliding rod 21a if necessary to fold and bend the stopper 41 upwardly. More specifically, the

REPLACEMENT SHEET

03 APR 1997

release hole 41c comprises an oval hole whose longitudinal direction is parallel to the front bent portion 41a corresponding to the minus screwdriver to be inserted and a circle hole which is arranged at generally the center of the oval hole and into which the sliding rod 21a of the clamp member 21 can be inserted for folding and bending the stopper 41 without a screwdriver.

Corresponding to the base member 22 having the above-mentioned arrangement, the back cover 1b of the folder body 1 is provided with a mounting hole 33 as the binding mechanism 3 and an engaging hole 42 as the engaging lock mechanism 4. The mounting hole 33 comprises a small-circular portion 33a having generally the same diameter as the rivet 31 and a big-circular portion 33b continuously arranged to the small-circular portion 33a to form a keyhole shape. The mounting hole is not limited to the shape of the keyhole but may comprise, for example, a big portion having a shape of oval and a small portion elongated from one end of the big portion toward the direction perpendicular to the longitudinal direction of the big portion. The big-circular portion 33b has such a diameter that the head 31a of the rivet 31 can easily pass therethrough. In this embodiment the mounting hole 33 is so arranged that the big-circular portion 33b is positioned upside when the filling device is in use. As a result of this arrangement of the mounting hole 33, the rivet 31 is prevented from moving toward the big-circular portion 33b even though a relatively big load acts on the binding fastener 2 in ordinal use. The engaging

REPLACEMENT SHEET

03 APR 1997

hole 42 is rectangular in shape and arranged so that the front bent portion 41a of the stopper 41 makes abutting engagement with one of the inner wall faces 42a of the locking hole 42 when the base member 22 is bound to the folder body 1. More particularly, the locking hole 42 has a wider width than that of the stopper 41 and is so arranged to form the inner wall face 42a with which the front bent portion 41a makes abutting engagement when the binding fastener 2 is positioned where it is to be fixed.

10 The binding fastener 2 is fixedly attached to the folder body 1 by the rivet 31 and the stopper 41 serves to prevent the binding fastener 2 from moving from the fixed position. More particularly, for fixing the binding fastener 2 to the folder body 1, first bring the base member
15 22 into coincidence with the folder body 1. At this time align the center of the through hole 32 formed on the base member 22 with that of the small-circular portion 33a of the mounting hole 33 formed on the folder body 1 to make them concentric. When the alignment has been completed, the
20 stopper 41 comes into abutting engagement with the inner wall face 42a of the locking hole 42, thereby to prohibit the binding fastener 2 from moving toward the big-circular portion 33b of the mounting hole 33. Insert the rivet 31 into each of four small-circular portions 33a of the
25 mounting hole 33 and the corresponding through hole 32 until the rivet 31 passes through them and then rivet the tip of the rivet 31 projecting from the through hole 32 (as shown in Fig. 4). With the tip of the rivet 31 riveted, the

REPLACEMENT SHEET

03 APR 1997

binding fastener 2 is fixedly attached to the folder body 1 by the same strength as the conventional filing device. In the fixed state the binding fastener 2 does not move along the folder body 1 because of the riveting force by the rivet 31 unless relatively big external force is applied thereto. The binding fastener 2 is prohibited from moving without fail because the front bent portion 41a of the stopper 41 makes abutting engagement with the inner wall face 42a of the locking hall 42. More specifically, although the binding fastener 2 moves along the inner face of the folder body 1 when the predetermined condition is satisfied, the binding fastener 2 is riveted to the folder body 1 and most of the load applied to the binding fastener 2 is sustained by the rivet 31 when in use.

With the above-described arrangement of the filing device, the binding fastener 2 can be demounted from the folder body 1 when the filing device becomes unnecessary. For demounting the binding fastener 2, as shown in Fig. 5 through Fig. 8, first plastically deform, namely, bend the stopper 41 upwardly to the base member 22 to make the front bent portion 41a project out of the locking hole 42. Insert the tip of the screwdriver SD into the release hole 41c and lift the tip thereof for bending the stopper 41 (as shown in Fig. 5 and 6). Then the binding fastener 2 comes into a movable condition toward the big-circular portion 33b of the mounting hole 33 along the inner face of the folder body 1. Hold the folder body 1 with one of the hands so as not to travel, and move the binding fastener 2 toward the big-

REPLACEMENT SHEET

03 APR 1997

circular portion 33b with another hand, thereby to bring the head 31a of the rivet 31 into coincidence with the big-circular portion 33b (as shown in Fig. 7). As the head 31a of the rivet 31 is smaller in diameter than the big-circular portion 33b, the binding fastener 2 can be demounted from the folder body 1 if the binding fastener 2 is moved upwardly perpendicular to the inner face of the folder body 1. In this case the rivet 31 which has fixed the binding fastener 2 to the folder body 1 attaches to the demounted binding fastener 2 without being destroyed or plastically deformed.

As the binding fastener 2 can be demounted just by moving the binding fastener 2 relatively to the folder body 1 after the stopper 41 provided on the base member 22 is bent, each parts of different material can easily be separated, collected and disposed according to the material. More specifically, the binding fastener 2 of metal and the folder body 1 of paper can be brought into a condition that is ready for easy removal without using any special tool, resulting in easy removal operation for anybody. This in turn essentially eliminates the time required for separation according to the material and disposal of the filing device, thereby to promote the effective utilization of the resource.

Referring to Fig. 8, a filing device according to the second embodiment of the invention will now be described.

This embodiment is different from the embodiment previously described in the arrangement of the mounting hole

REPLACEMENT SHEET

03 APR 1997

33 of the binding mechanism 3. In this embodiment, the arrangements other than that of the mounting hole 33 are essentially the same as those of the above embodiment. Therefore, the same reference number is given to the same
5 element in the drawings and no description will be given.

Unlike in the above embodiment, in the second embodiment the mounting hole 33 of the binding mechanism 3 is, as shown in Fig. 8, so arranged that the binding fastener 2 is to be moved toward the direction of left or
10 right relatively to the folder body 1. More specifically, the small-circular portion 33a is formed on the left side of the mounting hole 33 and the big-circular portion 33b is continuously formed on the right side of the small-circular portion 33a.

15 Referring to Fig. 9, the third embodiment of the invention will now be described.

The third embodiment is different from the first and second embodiments in the arrangement of the mounting hole 33 of the binding mechanism 3.

20 Unlike in the above embodiment, in the third embodiment the mounting hole 33 of the binding mechanism 3 is, as shown in Fig. 9, so arranged that the binding fastener 2 is to be rotated around the center of the base member 22 relatively to the folder body 1. More specifically, four small-
25 circular portions 33a are arranged along the arc of the circle whose center coincides with that of the base member 22, where the big-circular portion 33b is arranged continuous to the right side of the small-circular portion

REPLACEMENT SHEET

03 APR 1997

33a which locates upside while the big-circular portion 33b is arranged continuous to the left side of the small-circular portion 33a which locates downside. In this embodiment, there are two locking holes 42 with each of
5 which the stopper 41 makes engagement to prevent the binding fastener 2 from rotating.

Referring to Fig. 10, the forth embodiment of the invention will now be described.

This embodiment is different from the embodiments
10 previously described in the binding mechanism 3. In this embodiment the binding mechanism 3 is, as shown in Fig. 10, the mounting hole 33 is formed on the binding fastener 2 and the through hole 32 is formed on the folder body 1. In this case, it will dampen the significance of separating the
15 folder body 1 from the binding fastener 2 if the rivet 31 made of metal as binding mechanism 3 remains to attach to the folder body 1 made of paper. Accordingly, the diameter of the through hole 32 is preferably made generally the same as that of the riveted portion of the rivet 31. More
20 specifically, the through hole 32 formed on the folder body 1 is so made in diameter that the riveted portion of the rivet 31 can pass therethrough. As the riveted portion of the rivet 31 can easily pass through the through hole 32 having such a diameter, a ring-shaped bush 34 whose inner
25 diameter generally equals to the outer diameter of the rivet 31 and whose outer diameter generally equals to the diameter of the through hole 32 is provided to surround the rivet 31. The rivet 31 is inserted into the through hole 32 from the

REPLACEMENT SHEET

03 APR 1997

direction of the outer face of the folder body 1 by the bush 32 and one end 31b which passes through the small-circular portion 33a of the mounting hole 33 is riveted. With the above-described arrangement of the filling device, the rivet
5 31 can be demounted from the folder body 1 together with the bush 34.

Now referring to Fig. 11 through Fig. 13, the fifth embodiment of the invention will now be described.

This embodiment is different from the embodiment
10 previously described in the engaging lock mechanism 504 and other arrangements are essentially the same as those of the first embodiment. Therefore, the same reference number is given to the same element in the drawings and no description will be given.

15 In the fifth embodiment, the engaging lock mechanism 504 comprises, as shown in Fig. 11 through Fig. 13, a stopper 541 having a base portion 541b whose free end is generally semicircular-shaped and a curved-wall-shaped front bent portion 541a elongated from the edge of the
20 semicircular-shaped free end, and a circular-shaped locking hole 542.

More specifically, there are two stoppers 541, and each stopper 541 is formed at the center of the width and at the neighborhood of upside and downside edges on the mounting
25 member 22c. The base portion 541b is formed to be flat to the mount member 22c. The edge of the free end is elongated toward the folder body 1 to make the front bent portion 541a. The front bent portion 541a is a generally

REPLACEMENT SHEET

03 APR 1997

semicircular-shaped wall and makes abutting engagement with the inner wall face 542a of the locking hole 542 so as to prohibit the binding fastener 2 from moving toward the big-circle portion 33b of the mounting hole 33 when the binding fastener 2 is mounted on the folder body 1. A release hole 541c is formed on the base portion 541b of the stopper 541 for inserting a sliding rod or the like to fold and bend the stopper 541 upwardly when necessary. The release hole 541c is of circular-shaped concentric with the stopper 541. A part of the mounting member 22c which is continuous to the release hole 541 is raised up for reinforcement.

The locking hole 542 is of circular shaped having a curved inner wall face 542a and formed on the back cover 1b of the folder body 1. The locking hole 542 is arranged at a position where the front bent portion 541a of the stopper 541 makes abutting engagement with the inner wall face 542a when the base member 22 is bound to the folder body 1. The diameter of the locking hole 542 is a little larger than that of the stopper 541.

With the above-described arrangement of the filing device, the binding fastener 2 can be attached to or demounted from the folder body 1 as the same as the above-mentioned embodiments. More specifically, for attaching the binding fastener 2 to the folder body 1, first bring the base member 22 into coincidence with the folder body 1 to align the center of the through hole 32 formed on the base member 22 with that of the small-circular portion 33a of the mounting hole 33 formed on the folder body 1. When the

REPLACEMENT SHEET

03 APR 1997

alignment has been finished, the stopper 541 makes abutting engagement with the inner wall face 542a of the locking hole 542, thereby to prohibit the binding fastener 2 from moving toward the big-circular portion 33b of the mounting hole 33.

5 Next insert each of four rivets 31 into each small-circular portion 33a of the mounting hole 33 and the through hole 32 and then rivet the tip of the rivet 31 projecting from the through hole 32. For removing the binding fastener 2 from the folder body 1 when the filing device becomes
10 unnecessary, first bend to plastically deform the front bent portion 541a of the stopper 541 upwardly to the base member 22 by means of a sliding rod or the like until the front bent portion 541a of the stopper 541 is released from the abutting engagement with the inner wall face 542a. The
15 binding fastener 2 comes into a condition of being able to be moved toward the big-circular portion 33b of the mounting hole 33. Next move the binding fastener 2 to the folder body 1 until the rivet 31 is perfectly brought into coincidence with the big-circular portion 33b. Then demount
20 the binding fastener 2 from the folder body 1.

With the above-described arrangement, the shape of the front bent portion 541a of the stopper 541 in the engaging lock mechanism 504 is a curved wall extending from the edge of the semicircular, resulting in improvement of the
25 strength of the stopper 541 as well as the same effect produced as the above-mentioned embodiments.

Referring to Figs. 14 and 15, the sixth embodiment of the invention will now be described.

REPLACEMENT SHEET

03 APR 1997

The sixth embodiment is different from the embodiment previously described in the engaging lock mechanism 604 and other arrangements are essentially the same as those of the first embodiment.

5 In the sixth embodiment, as shown in Figs. 14 and 15, the stopper 641 of the engaging lock mechanism 604 makes engagement with the big-circular portion 633b of the mounting hole 633 as the binding mechanism 603. More specifically, the mounting hole 633 is formed like the first
10 embodiment on the back cover 1b of the folder body 1 and comprises a small-circular portion 633a having generally the same diameter as the rivet 31 and a big-circular portion 633b arranged continuous to the small-circular portion 633a to form a keyhole shape. The big-circular portion 633b is
15 arranged upside to the small-circular portion 633a when the filling device is in use and at a position where the front bent portion 641a of the stopper 641 to be described hereinafter makes abutting engagement with the inner wall face thereof. The diameter of the big-circular portion 633b
20 is a little larger than those of the head 31a of the rivet 31 and the stopper 641. The through hole 632 has generally the same diameter as the rivet 31 and is formed at a position to concentrate with the small-circular portion 633a when the base member 22 is bound to the folder body 1. The
25 engaging lock mechanism 604 is, as shown in Figs. 14 and 15, the same as that of the fifth embodiment and comprises a stopper 641 having a base portion 641b whose free end is generally semicircular-shaped and a curved-wall-shaped front

REPLACEMENT SHEET

03 APR 1997

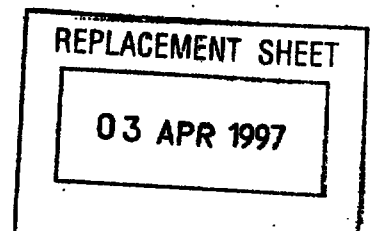
bent portion 641a elongated from the edge of the semicircular free end, and a circular-shaped locking hole which makes engagement with the stopper 641 and formed on the back cover 1b of the folder body 1. The big-circular
5 portion 633b functions as a locking hole and makes engagement with the stopper 641 when the base member 22 is bound to the folder body 1.

In accordance with the arrangement, the binding fastener 2 can be attached to or demounted from the folder
10 body 1 as the same as the above-described embodiments.

With the above-described arrangement, the big-circular portion 633b of the mounting hole 633 makes engagement with the stopper 641 while the base member 22 is bound to the folder body 1 and it can be a hole through which the head
15 31a of the rivet 31 passes when the base member 2 is to be demounted from the folder body 1, thereby it serves two different functions as well as to produce the same effect as the above-mentioned embodiments. Accordingly, the number of the holes formed on the folder body 1 can be diminished,
20 resulting in lesser processing portions of the folder body 1.

Referring to Fig. 16 through Fig. 18, the seventh embodiment of the invention will now be described.

The seventh embodiment is different from the fifth
25 embodiment previously described in the binding mechanism 703 and other arrangements are essentially the same as those of the fifth embodiment. Therefore, the same reference number is given to the same element in the drawings and no



description will be given.

In accordance with the seventh embodiment, the binding mechanism 703 comprises, as shown in Fig. 16 through Fig. 18, the mounting hole 733 formed on the folder body 1 and which has a rivet through portion 733a and a cross slit portion 733 which is arranged continuous to the rivet through portion 733a. The through hole 32 formed on the binding fastener 2 has a corresponding diameter to the rivet through portion 733a. More specifically, the mounting hole 733 comprises the rivet through portion 733a having generally the same diameter as the rivet 31 and the cross-shaped cross slit portion 733b formed continuously upward to the rivet through portion 733a when the filing device is in use. The down end of the cross slit portion 733b is continuous to the rivet through portion 733a and so formed that the opening width thereof is quite smaller than the diameter of the rivet 31. Accordingly, the rivet 31 which is inserted into and passed through the rivet through portion 733a does not move toward the cross slit portion 733b unless the cross slit portion 733b is destroyed to form the diameter of an opening bigger than that of the rivet 31.

In addition, the cross slit portion 733b has such a strength that it can be destroyed if a force bigger than the predetermined is applied thereto, and both of the width and the length are formed bigger than the diameter of the head 31 of the rivet 31 to form a hole having a diameter through which the head 31a of the rivet 31 can be passed when destroyed.

REPLACEMENT SHEET

03 APR 1997

With the above-described arrangement, the binding fastener 2 can be attached to the folder body 1 as the same as the above-described fifth embodiment. When the filing device becomes unnecessary, first release the binding fastener 2 from being prohibited to move to the folder body 1 by the stopper 541 by means of a sliding rod or the like so as to make the binding fastener 2 in a condition that it can be moved toward the cross slit portion 733b of the mounting hole 733. Next destroy the back cover 1b around the cross slit portion 733b by applying a force bigger than the predetermined to the binding fastener 2 toward the cross slit portion 733b. Then move the binding fastener 2 to the folder body 1 until the center of the rivet 31 making engagement with the rivet through portion 733a is brought into coincidence with the cross portion of the cross slit portion 733b. The broken back cover 1b comes into a state of being able to be passed through by the head 31a of the rivet 31 by applying further force in the state shown in Fig. 18. Then the folder body 1 can be demounted from the binding fastener 2 together with the rivet 31 if the binding fastener 2 is demounted.

In accordance with the arrangement of the embodiment, the strength of mounting the binding fastener 2 to the folder body 1 can be improved as well as producing the same effect as the above-mentioned embodiments.

Referring to Fig. 19 through 21, the eighth embodiment of the invention will now be described.

The eighth embodiment is different from the previously

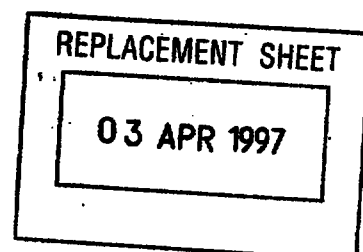
REPLACEMENT SHEET

03 APR 1997

described embodiments in the binding mechanism 803 and other arrangements are essentially the same as those of the fifth embodiment. Therefore, the same reference number is given to the same element in the drawings and no description will
5 be given.

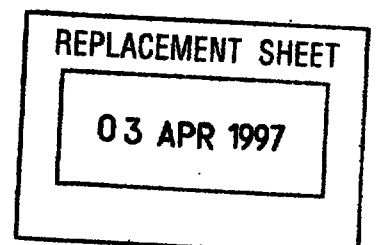
In accordance with the eighth embodiment, the binding mechanism 803 comprises, as shown in Fig. 19 through 21, a hook-shaped bent portion 832a provided on the mounting member 22c of the binding fastener 2 and an engaging hole
10 833 provided on the folder body 1. The binding mechanism 803 is so arranged that the hook-shaped bent portion 832a inserted into the engaging hole 833 comes into engagement with an opening edge 833a of the engaging hole 833 by the movement of the folder body 1 relative to the binding
15 fastener 2.

More specifically, the hook-shaped bent portion 832a is formed to elongate the edge of the hole 832 which locates upper side when the filing device is in use toward the folder body 1 and to elongate the free end of the elongated
20 edge downward when the filing device is in use. The hole 832 is formed at a location in the neighborhood of each of the four corners of the rectangular mounting member 22c. A square shaped engaging hole 833 is formed on the back cover 1b of the folder body at a position with which the hook-
25 shaped bent portion 832a can make abutting engagement when the binding fastener 2 is bound to the folder body 1. The engaging hole 833 has a little larger opening width than that of the hook-shaped bent portion 832a so that the hook-



shaped bent portion 832a can be inserted thereinto. The engaging hole 833 has an opening edge at the down side thereof when the filing device is in use. The hook-shaped bent portion 832a makes engagement with the opening edge 833a to bind the binding fastener 2 to the folder body 1. In addition, the part continuous to the opening edge 833a and to which the binding fastener 2 is to be attached is formed to have less thickness than that of the other face as much as generally the same as the thickness of the hook-shaped bent portion 832a to make the surface of the hook-shaped bent portion 832a flat to the other face when the hook-shaped bent portion 832a makes engagement with the folder body 1.

With the above-mentioned arrangement, for mounting the binding fastener 2 to the folder body 1, only insert the hook-shaped portion 832a into the engaging hole 833 to make engagement with the opening edge 833a of the engaging hole 833. In this state, the binding fastener 2 is prohibited from moving downwardly to the folder body 1 when the filing device is in use. In addition, as the stopper 541 is engaged with the locking hole 542 like the fifth embodiment, the binding fastener 2 is prohibited from moving upwardly along the folder body 1 when the filing device is in use, resulting in no fixing device like a rivet required for mounting the binding fastener 2 to the folder body 1. In accordance with the arrangement, no fixing device like a rivet is required to bind the binding fastener 2 to the folder body 1, thereby to require no time and labor for



03 APR 1997

fixing by the fixing device. As a result of this, the process of mounting the binding fastener to the folder body is simplified.

Now referring to Fig. 22 through Fig. 24, the ninth embodiment of the invention will be described.

The ninth embodiment is different from the embodiment previously described in the engaging lock mechanism 904 and other arrangements are essentially the same as those of the first embodiment. Accordingly, the same reference number is given to the same element in the drawings and no description will be given.

The binding fastener 902 is of rigid synthetic resin and, as shown in Fig. 22, comprises a through hole 932 into which a rivet 31 is to be inserted and pass through and a stopper 941, both of which are provided on the mounting member 922c of the base member 922. The through hole 932 is a small circle-shaped hole having generally the same in diameter as the rivet 31 and is arranged at a location in the neighborhood of each of the four corners of the mounting member 922c. The engaging lock mechanism 904 comprises, as shown in Fig. 22 through 24, a locking hole 942 provided on the folder body 1 and an elastically transformable stopper 941 which is integrated with the binding fastener 902 of synthetic resin and at the tip of which provided is a thick portion 941a to be inserted into the above-mentioned locking hole 942.

More specifically, there are two stoppers 941, and each of the stoppers 941 is formed at the center of the width and

at the neighborhood of upside or downside edge on the mounting member 922c and comprises a base portion 941b formed to be flat to the mounting member 922c and a thick portion 941a formed thicker on the side thereof facing the folder body 1 than the base portion 941b as much as the thickness of the folder body 1. The thick portion 941a is in a shape of semicircular and prohibits the binding fastener 902 from moving toward the big-circular portion 33b of the mounting hole 33 by making engagement with the locking hole 942 when the binding fastener 902 is mounted to the folder body 1. The base portion 941b of the stopper 941 has a release hole 941c for inserting a sliding rod or the like when it is necessary to elastically deform the stopper 941 upwardly. The release hole 941c is a shape of circular concentric with the stopper 541.

In accordance with the arrangement, the binding fastener 902 can be attached to or demounted from the folder body 1 as the same as the above-described embodiments. More specifically, for attaching the binding fastener 902 to the folder body 1, first bring the base member 922 into coincidence with the folder body 1 and align the center of the through hole 932 formed on the base member 922 with that of the small-circular portion 33a of the mounting hole 33 formed on the folder body 1 to make them concentric. When the alignment has been completed, the thick portion 941a of the stopper 941 comes into engagement with the locking hole 942, thereby to prohibit the binding fastener 902 from moving toward the big-circular portion 33b of the mounting

REPLACEMENT SHEET

03 APR 1997

hole 33. Next, insert each of the four rivets 31 into each small-circular portion 33a of the mounting hole 33 and the through hole 932. Finally, rivet the tip of the rivet 31 projecting from the through hole 932. For demounting the binding fastener 902 from the folder body 1 when the filing device becomes unnecessary, first plastically deform the stopper 941 upwardly along the base member 922 to release the engagement of the stopper 941 with the locking hole 542 by using a sliding rod or the like. Then the binding fastener 902 comes into a condition movable toward the big-circular portion 33b of the mounting hole 33. Next, move the binding fastener 902 relatively to the folder body 1 toward the big-circular portion 33b until the rivet 31 is brought into coincidence with the big-circular portion 33b. Then finally demount the binding fastener 902 from the folder body 1.

In accordance with the arrangement, although the binding fastener 902 is of synthetic resin, the same effects are produced as the above-mentioned embodiments in which the binding fastener is of metal.

Now referring to Fig. 25 through Fig. 27, the tenth embodiment of the invention will be described.

The tenth embodiment is different from the first embodiment in the engaging lock mechanism 1004 and other arrangements are essentially the same as those of the first embodiment. Accordingly, the same reference number is given to the same element in the drawings and no description will be given.

REPLACEMENT SHEET

03 APR 1997

In the tenth embodiment, the engaging lock mechanism 1004, as shown in Fig. 25 through 27, comprises a locking hole 43 provided on the folder body 1, a through hole 44 provided on the binding fastener 2, a stopper 45 engaged with the locking hole 43 with a head portion 45a engaged with an opening edge of the through hole 44 and a leg portion 45b passed through the through hole 44 and a stopper engaging portion 46 which prohibits the stopper 45 from being pulled out by engaging with the head portion 45a when the stopper rotates. More specifically, in the engaging lock mechanism 1004 the stopper 45 is bolt-shaped and comprises the flat head portion 45a and the leg portion 45b projecting downward from the bottom of the head portion 45a. At the center of the head portion 45a provided is a concave 45c for engaging a screwdriver. At a location in the neighborhood of the edge of the head portion 45a provided is a concave 45d for preventing the head portion 45a from rotating. With the leg portion 45b of the stopper 45 inserted into and passed through the locking hole 43 formed on the folder body 1 and the through hole 44 formed on the binding fastener 2, the head portion 45a is engaged with the stopper engaging portion 46 formed on the binding fastener 2 by means of press molding or the like (as shown in Fig. 25). The downwardly projecting projection 46a formed on the stopper engaging portion 46 comes into engagement with the concave 45d and prevents the head portion 45a from being pulled out of the stopper engaging portion 46 by vibration or the like. As a result of this engagement of the head

REPLACEMENT SHEET

03 APR 1997

portion 45a with the stopper engaging portion 46, the stopper 45 is prohibited from moving upward along the binding fastener 2. In addition, as the leg portion 45b is inserted into both the locking hole 43 and the through hole 44, the binding fastener 2 is prevented from moving
5 relatively to the folder body 1.

For removing the binding fastener 2, first engage the screwdriver with the concave 45c formed on the head portion 45a of the stopper 45. Then rotate the stopper 45 clockwise
10 at least 90 degrees to release the engagement of the head portion 45a with the stopper engaging portion 46 (as shown in Fig. 26). When this engagement is released, lift the stopper 45 to completely draw the leg portion 45b out of the locking hole 43 and the through hole 44 (as shown in Fig.
15 27). This makes the binding fastener 2 and the folder body 1 free from the bolted condition by the leg portion 45b, resulting in a condition where the binding fastener 2 and the folder body 1 are relatively movable. Finally, demount the binding fastener 2 from the folder body 1 by moving the
20 binding fastener 2 upward along the folder body 1 as the same as the above-mentioned embodiments. The stopper 45 may be applied to the above-mentioned embodiment as shown in Fig. 8, the embodiment as shown in Fig. 9, the embodiment as shown in Fig. 16 through 18, the embodiment as shown in Fig.
25 19 through 21, or the embodiment as shown in Fig. 28 and 29 to be described hereinafter.

Referring to Figs. 28 and 29, the eleventh embodiment will now be explained.

REPLACEMENT SHEET

03 APR 1997

In the eleventh embodiment, the binding mechanism 103 comprises a bent member 131 which passes through the folder body 101 and projects from the inner face thereof and which is provided on a fixing plate 105 arranged along the outer face of the folder body 101, and an engaging hole 132 provided on the binding fastener 102. For attaching the binding fastener 102 to the folder body 101 at a predetermined position, first engage the bent member 131 with one edge 132a of the engaging hole 132 by moving the binding fastener 102 relatively to the folder body 1. Then hold the folder body 1 between the fixing plate 105 and the binding fastener 102.

The engaging lock mechanism 104 comprises a stopper engaging hole 141 provided on the binding fastener 102, a stopper through hole 142 provided on the folder body 101 at a corresponding position to the stopper engaging hole 141, and a stopper 143 which makes engagement with the stopper engaging hole 141 by passing through the stopper through hole 142 and which is provided on the fixing plate 105.

The fixing plate 105 is of sheet metal and having the same rectangular-shaped as the configuration of the base member 102a. The fixing plate 105 has the bent members 131 and each of which is formed by cutting near the corner of the fixing plate 105 to take an upright posture. The bent members 131 are bent parallel to the face of the fixing plate 105 at the height which totals the thicknesses of the folder body 101 and binding fastener 102 to face the same direction. The bent member 131 makes its tip portion 131a a

REPLACEMENT SHEET

03 APR 1997

little bent upward. Similarly the center of the fixing plate 105 is cut toward the opposite direction to the bent member 131 to form a stopper 143 which can make abutting engagement with both the inner face of the stopper through hole 142 and the inner face of the stopper engaging hole 141.

The back cover 101b of the folder body 101 is provided with a through hole 101d for the bent member 131 near the corner thereof at the position corresponding to the bent member 131. The engaging hole 132 is arranged on the base member 102a to be brought into coincidence with the through hole 101d. At the center of the base member 102a provided is the engaging hole 141 at the position corresponding to the stopper 143. The stopper through hole 142 is arranged on the folder body 101 to be brought into coincidence with the engaging hole 141. The through hole 101d is approximately the same in width as the bent member 131. The engaging hole 141 and the stopper through hole 142 is about the same in width as the stopper 143. As a result of these widths, the binding fastener 102 is free from slippage toward right or left when fixed to the folder body 101. The through hole 101d and the stopper through hole 142 are so formed on the folder body 101 that the stopper 143 closely attaches to the inner faces of the stopper through hole 142 and the through hole 101d with an upright portion 131b of the bent member 131 closely attached to the inner face of the through hole 101d.

With the above-mentioned arrangement, the binding

REPLACEMENT SHEET

03 APR 1997

03 APR 1997

fastener 102 is fixedly attached to the folder body 101 by the fixing plate 105. First put the fixing plate 105 to the outer face of the folder body 101. Next, insert the bent member 131 and the stopper 143 into the through hole 101d and the stopper through hole 142 respectively with the tip portion 131a of the bent member 131 faced to the upper edge 101u of the folder body 101 when the filing device is in use and the upright portion 131b closely adhered to the inner side of the through hole 101d. In this condition the stopper 143 is not inserted into the stopper engaging hole 141 while each of the bent members 131 is inserted into the engaging hole 132. Then move and slide the binding fastener 102 toward the down side of the folder body 101 with pushing the binding fastener 102 to the folder body 101. As a result of this sliding movement, the bent member 131 comes into engagement with the side edge 132a of the engaging hole 132 and the stopper 143 comes into engagement with the inner side of the stopper engaging hole 141 formed on the binding fastener 102 as well as the stopper through hole 142. As the binding fastener 102 is fixed with its bent member 131 facing to the upward when the filing fastener is in use, the weight acting on the binding fastener 102 is essentially sustained by four bent members 131.

In the eleventh embodiment, the binding fastener 102 is fixed to the folder body 101 with the bent member 131 engaged with the side edge 132a of the engaging hole 132 and the folder body 101 held between the binding fastener 102 and the fixing plate 105. When the filing device is to be

03 APR 1997

disposed, release the engagement of the stopper 143 with the engaging hole 141 by bending the stopper 143 to fold toward the folder body 101, namely, the stopper through hole 142. As a result of this release, the binding fastener 102 is brought into a condition of slidably movable. Then move the binding fastener 102 to the direction to which the tip 131a of the bent member 131 faces. The bent member 131 is released from the engagement with the engaging hole 132. The bent member 131 can be positioned at the center of the engaging hole 132. Lift the binding fastener 102 at the position to demount it from the folder body 101. Accordingly, the binding fastener 102 can be demounted from the folder body 101 without plastically deforming or destroying the bent member 131 which substantially fixes the binding fastener 102 to the folder body 101.

Referring to Fig. 30 through Fig. 32, the twelfth embodiment will now be explained.

In the twelfth embodiment, the shape and the numbers of the bent member and the stopper formed on the fixing plate are different from those of the eleventh embodiment.

More specifically, there are five bent members 231 and two stoppers 243. Concretely, four of the bent members 231 are formed by cutting near each of the four corners on the fixing plate 205 like the eleventh embodiment and another one is formed on the center of the fixing plate 205. The two stoppers 243 are formed by cutting near upside and downside at the center in the width of the fixing plate 205. In this embodiment, the height of the horizontal portion

03 APR 1997

243a of the stopper 243 is generally the same as the thickness of the folder body 201. The center of the tip on the horizontal portion 243a is partially raised up to form the raised portion 243b, which makes engagement with the binding fastener 202. As a result of this raised portion 243b provided on the stopper 243, the whole height of the stopper 243, i.e. the height of the portion which projects from the inner face of the folder body 201 becomes lower, thereby to lessen the sliding resistance when the binding fastener 202 is bound to the folder body 201. As a result of this, it becomes easy to move the binding fastener 202. Needless to say, the folder body 201 and the binding fastener 202 are provided with the engaging holes 232, 241 and the through holes 201d, 242 corresponding to the bent members 231 and the stoppers 243.

In addition the binding fastener 202 in accordance with the embodiment has two travel-restraining members 6 formed by cutting the base member 202a and bending it downward at the center in the width of the base member 202a and outside to the stopper engaging hole 241 along the longitudinal length thereof to prohibit the binding fastener 202 from moving along the width. The travel-restraining member 6 has a hanging length less than the thickness of the folder body 201. Corresponding to the travel-restraining member 6 on the folder body 201 is formed an elongated hole 206 having generally the same in width as the distance between outer faces of the travel-restraining member 6. In accordance with the arrangement which prohibits the movement along the

width, the bent member 231, the stopper 243, the engaging holes 232, 241, and the through holes 201d, 242 can have bigger clearance, thereby to make the processing of sheet metal easy.

5 Figs. 33 and 34 show the thirteenth embodiment of the invention.

In the thirteenth embodiment, the binding fastener 302 is fixedly attached to the folder body 301 by using the fixing plate 305 arranged along the outer face of the folder
10 body 301. The folder body 301 is made of synthetic resin. Boundaries between the back and front covers 301b, 301a and the back and rear covers 301b, 301c are made thinner than the rest to form hinge sections 301d to facilitate opening and closing of the front and rear covers 301a and 301c.

15 The fixing plate 305 is rectangular-shaped and has a binding mechanism 303 and an engaging lock mechanism 304. The binding mechanism 303 comprises a pair of guide rails 335 as a guide holder provided on both up and down edges of the fixing plate 305 and which pass through the folder body
20 301 and project from the inner face thereof and an abutting member 336 which is provided on one longitudinal side of the fixing plate 305 and makes engagement with a through hole 301g of the folder body 301. The guide rails 335 are made by bending both sides of the fixing plate 305 of sheet metal
25 to form channel shapes facing each other. The horizontal portion 335a of the guide rail 335 is formed so as to project from the inner face of the folder body 301 as much as a length that the base member 302a can be inserted into

REPLACEMENT SHEET

03 APR 1997

the folder body 301 from the inner face thereof when arranged along the folder body 301. The abutting member 336 is formed to have a height which can make engagement with the base member 302a to be engaged with the guide rail 335.

5 The guide holder is not limited to the shape of continuous rail but may be a plurality of rail-shaped member provided spaced apart.

The engaging lock mechanism 304 in the fixing plate 305 is a stopper 345 provided by cutting a part of the fixing

10 plate 505 as well as that of the twelfth embodiment. The stopper 345 faces to the side on which the abutting member 336 is formed and has a height of totaling the thicknesses of the folder body 301 and the base member 302a.

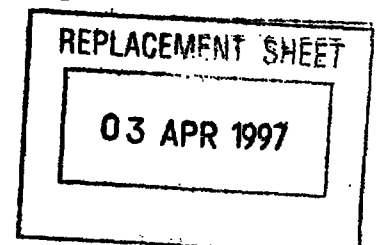
Corresponding to the fixing plate 305, on the back

15 cover 301b of the folder body 301 provided are a through hole 301e oblong with more width than length into which the guide rail 335 is to be inserted, a stopper through hole 301f into which the stopper 345 is to be inserted, and a through hole 301g into which the abutting member 336 is to

20 be inserted. In addition on the base member 302a provided is an engaging hole 302b corresponding to the stopper through hole 301f provided on the folder body 301.

With the arrangement, the binding fastener 302 is fixedly attached to the folder body 301 with both of the up

25 and down edges thereof slidably engaged with the guide rail 335 of the fixing plate 305 and one side edge of the binding fastener 302 engaged with the abutting member 336. More specifically, first put the fixing plate 305 along the outer



face of the folder body 301 with the guide rail 335 inserted into the oblong through hole 301e, stopper 345 into the stopper through hole 301f, and the abutting member 336 into the through hole 301g respectively. Next, insert the
5 binding fastener 302 into the guide rail 335 from the other side of the fixing plate 305 where the abutting member 336 is provided and move and slide the binding fastener 302 along the guide rail 335 until the binding fastener 302 makes abutting engagement with the abutting member 336. As
10 a result of this abutting engagement, the stopper 345 makes engagement with the engaging hole 302b of the binding fastener 302, thereby to prohibit the binding fastener 302 from moving the other end. Then the binding fastener 302 is fixedly attached to the folder body 301.

15 When the filing device is in use, the binding fastener 302 is supported by the guide rail 335 from the up and down sides and prohibited from moving along the direction of the thickness of the folder body 301, and is prohibited from moving left or right by the abutting member 336 and the
20 stopper 345. Accordingly, the binding fastener 302 is kept to be fixedly attached to the folder body 301 like fixed by means of a rivet or the like. On the other hand, when the filing device is to be disposed, release the engagement of the stopper 345 with the engaging hole 302b by plastically
25 deforming the stopper 345 toward the outer face of the folder body 301. The operation to bent the stopper 345 can be done easily with using a stick-shaped body such as a clamp member of the binding fastener 302 or a ballpoint pen

REPLACEMENT SHEET

03 APR 1997

or the like. As a result of the release of the engagement, the binding fastener 302 comes into a condition movable toward opposite to the abutting member 336 along the guide rail 335. Then move and slide the binding fastener 302 toward opposite to the abutting member 336, thereby to demount the binding fastener 302 from the folder body 301. In this embodiment, as the binding fastener 302 is bound to the fixing plate 305 by only the guide rail 335 and the stopper 345, the binding force which acts on the binding fastener 302 is quite small when it comes into a movable condition compared to the strength with which the folder body 301 is bound to the binding fastener 302 by rivets. As a result of this, small force will do to move the binding fastener 302. In addition, as the folder body 301 is strengthened by the fixing plate 305 attached to the back cover 301b thereof, the folder body 301 of synthetic resin can have generally the same rigidity as that of cardboard.

This invention is not limited to the embodiments described in detail hereinabove. In each of the above-mentioned embodiments, the folder body is explained as of paper, but may be of polypropylene or rigid vinyl chloride. In addition, the folder body is explained as comprising the front cover, the back cover and the rear cover, but may comprise one board such as a paper clip or a clip board. In this case, the position at which the binding fastener may be the same as the conventional one.

The arrangement of the binding fastener may be applied to a ring type such as a loose-leaf type, so called a Z-type

REPLACEMENT SHEET

03 APR 1997

where papers are held between a clamp member and a base member supporting the clamp member with the clamp member manipulated by a lever, or other types which are well-known in the art in addition to the above-described type where the
5 clamp member having a sliding rod is removably held by a pipe-shaped binding rod mounted to a base member. Further, the binding fastener may be attached to the rear cover near the boundary to the back cover in addition to the back cover.

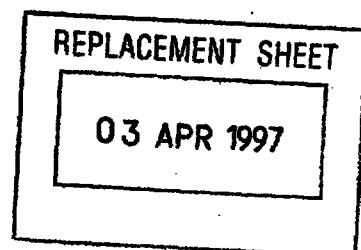
10 The arrangement of the invention is not limited to the drawings, but other modifications can be applied without departing from the spirit of the invention.

POSSIBLE APPLICATIONS IN INDUSTRY

As explained in detail hereinabove, the filing device
15 of the invention is suitable for use as an environment conscious filing device which makes it easy to be separated and collected according to the material with considering reuse of the resource when disposed.

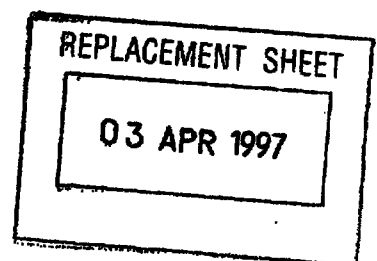
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**CLAIM:**

A filing device in which a binding fastener fixedly attached to a folder body can be demounted from the folder body with accompanying plastic deformation or destruction of the parts of the filing device, wherein said binding fastener is fixedly
5 attached to the folder body by a binding mechanism which fastens the binding fastener to the folder body and which enables the binding fastener to be released from the folder body by a relative movement of the binding fastener to the folder body, and an engaging lock mechanism which prohibits said relative movement, said filing device
10 being characterized in that the binding mechanism comprises a hook-shaped bent portion provided on either one of the folder body or the binding fastener, and an engaging hole provided on the other, in which the hook-shaped bent portion inserted into the engaging hole is brought into engagement with an opening edge of the engaging hole by the relative movement of the folder body to the binding fastener.



FILING DEVICE**ABSTRACT**

The filing device in which a binding fastener 2 fixedly attached to a folder body 1 can be demounted from the folder body 1 with accompanying plastic deformation or destruction of the parts of the filing device, and is characterized by that the binding fastener 2 is fixedly attached to the folder body 1 by a binding mechanism 3 which fastens the binding fastener 2 to the folder body 1 and which enables the binding fastener 2 to be released from the folder body 1 with a relative movement of the binding fastener 2 to the folder body 1, and an engaging lock mechanism 4 which prohibits the relative movement.

FIG. 1

