Nov. 5, 1929. J. F. VEIL 1,734,658

FILE FOR PAPERS AND LIKE SHEETS

Filed June 8, 1925

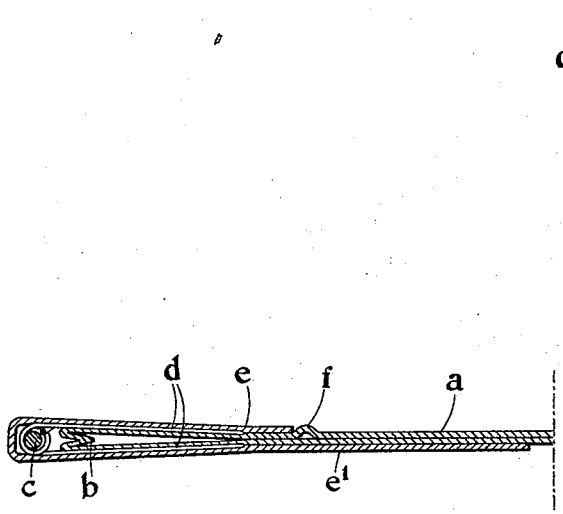


Fig.2.

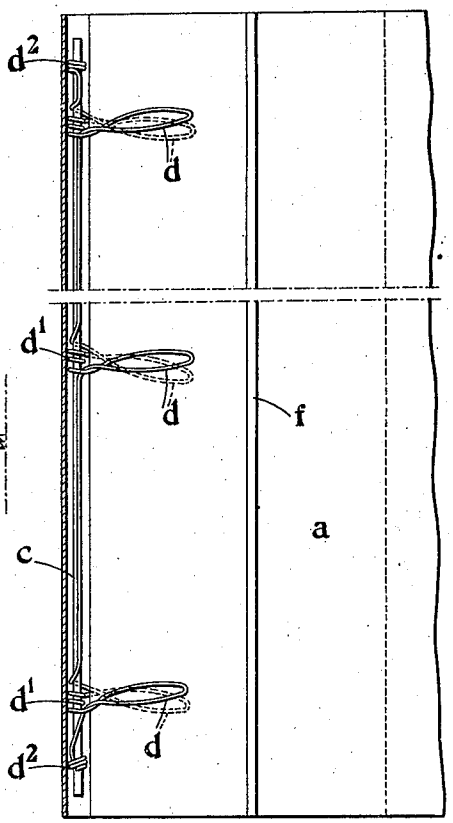


Fig.1.

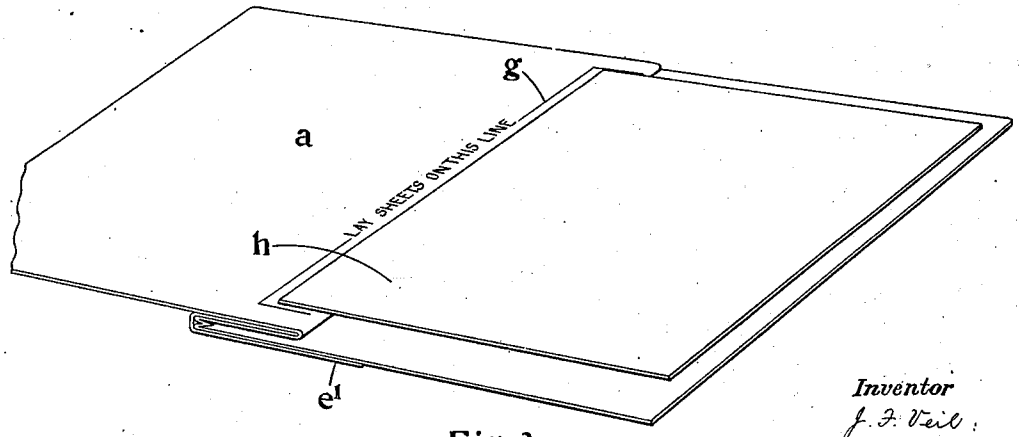


Fig.3.

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UNITED STATES PATENT OFFICE

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FILE FOR PAPERS AND LIKE SHEETS

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This invention relates to files made of stout paper, cardboard and similar material, for containing papers, letters and documents in which the papers, letters or documents are held in the file without the necessity of their perforation or mutilation, and by mere pressure exercised thereon near the folded edge of a torsion spring comprising pairs of loops or clips formed of a continuous length of fine wire.

According to the invention means adapted to lie at or near the folded edge of the file are provided for supporting the pairs of loops or the clips employed, so as to render unnecessary the binding of the pairs of loops or clips to the material of which the file is made, by such means as wire or otherwise.

The means employed according to the invention may consist of a support such as a rod, strip or the like of steel or other flexible and elastic metal or of other material, upon which the pairs of loops or clips are supported or to which they may be connected.

According to the invention, moreover, the pairs of loops or clips are so formed and so carried or connected upon the support, rod, strip or the like, that the loops of each pair, or the parts of each clip, are capable of being opened out or of being separated in a pivotal movement about the support, rod, strip or the like. For this purpose according to the invention the respective loops or parts of each pair are connected together at the position at which they are carried or connected upon the support, rod strip or the like, by a spring or by a helical or other formation of the wire of which the loops or parts of the respective clip are formed, whereby the loops or parts are under tension or are put under tension on being opened or separated. Thus on a number of such pairs of loops or clips being mounted or supported upon a rod, strip or the like in determined positions in its length, the spring or helix, or other intermediate part of the wire, causes a certain pressure upon the respective parts or covers of the file in positions where the loops or clips engage, whereby the papers, letters or documents may be firmly engaged therein.

According to the invention, moreover, all the pairs of loops or clips, or a number of them that are used upon the file, may be formed from a continuous length of steel wire, such as piano wire, and the respective ends of the continuous length of wire used may be extended to engage the support, so that the final loops at each end may be maintained in proper position upon the support.

According to the invention, moreover, a stiffening strip or folded cardboard or stout paper or the like is applied over the wire near the folded edge of the file, the strip aforesaid being secured by paste or other adhesive. The said strip may be of a greater thickness than the paper, cardboard or the like, of which the main part or cover of the file is made or may be otherwise provided to give rigidity to the file or jacket near the folded edge. By such means although the file may be made of flexible material it may be laid upright to rest on its rear edge without collapsing or departing from a substantially straight or vertical line.

The invention comprises the features hereinafter described.

The invention is diagrammatically illustrated by way of example in the accompanying drawings, in which,

Figure 1 is a diagrammatic front elevation partly in section of a file provided according to the invention, and in which part of the reinforcing strip is shown removed to expose the torsion spring; while Figure 2 is a diagrammatic detail transverse section on an enlarged scale and corresponding to Figure 1, and Figure 3 is a perspective view of the file shown with papers set preparatory to being inserted in position in the file, it being understood that the papers to be filed are laid in determined position as indicated in the figure and the upper part of the file raised so that thus the inner edges of the papers come to lie between the front and back part of the file near the rear edge at which the loops or clips are applied and are tightly engaged by them.

In carrying the invention into effect as illustrated in the accompanying drawings the rear folded edge of the file *a* may be provided with an inwardly protruding gusseted part *b*

forming an external groove or recess at the rear edge, adapted for the reception or adjacent disposition of the rod *c* or of a support, strip or the like upon which the respective pairs of loops or parts *d* of the clips are carried or connected as hereinbefore described; and in order that the rod *c* or other support or the like may be brought in position adjacent or within the groove or recess referred to, the respective loops or parts *d* of each pair are caused to engage on the outside of the file *a* in opposite positions near the rear folded edge *b*, as illustrated, so that when in such positions the rod or other support or the like comes to lie adjacent to or within the external groove or recess in the inwardly protruding gusseted part *b* of the file.

The pairs or parts of the loops or clips are advantageously made as illustrated in Figure 1 of a continuous length of wire the ends of which are formed around the rod *c* into helices d^2. Thus the connected series of pairs of loops or clips are firmly held upon the rod *c*.

Over the rear folded edge of the file a covering or reinforcing strip or length *e* of folded cardboard, stout paper, fabric or other material may be secured by means of paste or other adhesive or otherwise, so that thus the rod *c* or other support or the like carrying the respective pairs of loops or clips *d* is completely enclosed throughout its length, and this folded reinforcing length *e* of cardboard or other material may be provided of such thickness and width as to give rigidity to the file, or the sides thereof, near the folded edge; and on the front side of the file a beading *f* may be formed parallel with the rear folded edge, and for example about one inch therefrom, so that the front side of the file may fold on this line in opening or closing; or instead or in addition, the inner edge of the front part of the reinforcing length *e* of folded cardboard or other material may determine the folding line on which the front part of the file may open or close. The back part e^1 of the reinforcing length of folded cardboard or other material may be wider than the front part, so as to give rigidity to the file near its rear folded edge, whereby the files may be set to stand upright upon their rear edges without possible tendency completely to bend or collapse.

Such a folded strip *e* may serve for the retention of the respective pairs of loops in their position merely by being secured by paste or adhesive. But before such a folded strip is applied in the manner described strips of stout paper, fabric or other material may be applied by paste or other adhesive or otherwise on the outer faces of the file in opposite positions near the rear folded edge, so as thus to cover the loops or parts of the clips with the said strips. By such means the respective loops of each pair may be held within pockets formed between the respective parts or covers of the file and the strips referred to, whereby the movement up or down with respect to the file is prevented.

It will be understood that in the construction illustrated in Figures 1 and 2, the formation of the wire that is required in order that the respective pairs of loops are under tension ordinarily suffices to hold the rod *c*, whereby if the folded reinforcing strip *e* be brought as closely as possible or conveniently against the folded edge of the file and secured in position in the manner described, the pairs of loops are securely held, and no special means are necessary positively to retain the rod in its position. It will be understood however, that the ends of the rod may be bent over or other means employed to ensure against relative movement. Or again transversely disposed strips of paper, tape or other material may be applied and secured by paste or other adhesive or otherwise near the respective ends of the file, or otherwise in position across the groove or recess at the rear folded edge, as a means for retaining the support, rod, strip or the like carrying the pairs of loops or the parts of the clips, in the external groove or recess, or in a position adjacent thereto, so that thus the loops or clips are thus also rendered substantially immovable.

It will be understood that as illustrated in Figure 3, the front part of the file is raised and folded back on a line beside the bead *f*, into the position indicated in that figure; the papers *h* may then be set for insertion into the file by bringing their inner edges beside the line *g* marked on the inner face of the front part of the file. The open file as indicated in Figure 3 is laid upon a table or flat surface and the papers *h* are held in position by pressure of the right hand. The top part of the file is then engaged by the left hand, and raised so that the file near the back edge is opened against the action of the spring clips *d*. In this operation the papers *h* near their inner edges are raised until the folded edge of the top part of the file allows the papers at their inner edges to fall. The top part of the file is then released, and the folded edge thereof then contacts with the papers *h* near their inner edges, and engages them against the back or lower part of the file. The papers *h* may be similarly released or they may be released on being pulled out and by overcoming the friction by which they are held in position.

Instead of providing a support for the pairs of loops or clips *h*, so that it extends the length of the rear folded edge of the file, the support may be provided to extend for the purpose of carrying one, two or other number of pairs of loops or clips, thus where one pair of loops alone is provided the ends of the continuous length of wire of which it is made are formed into helices such as d^2

upon the rod *c*; or again, instead of the pairs of loops or clips being supported upon a rod, they may be supported or held on a flexible member such as a cord or tape, which may be held taut or be secured in positions at its ends or in intermediate positions by adhesive, stitching or otherwise, and in such a case the flexible member may extend over the respective top and bottom edges of the file and be secured on the inside, and more than one such flexible member may be used the ends of which may be secured on the inner faces of the file adjacent the folded edge, and instead of the number of loops or clips being provided of a single continuous length of wire, whereby the loops or clips are connected together by intermediate and integral lengths of wire, the loops or clips may be separately provided, and separately held in position on a rod or other support such as hereinbefore described or by any other suitable means.

It is preferred that the loops *d* of each pair or the parts of each clip are applied near the folded edge of the file on the outer faces, but they may be applied on the inner faces, in which case it will be understood that covering or reinforcing strips such as hereinbefore described may be applied on the inner faces of the file near the folded edge, and that the fold may be similarly formed by gusseting, in order that the support, rod, strip or the like by which the pairs of loops or clips are carried may be accommodated within a recess or adjacent thereto. The recess may then be covered over by a folded reinforcing length of cardboard or other material, which is applied over the support and the loops or clips so as to enclose or confine them in their position within or adjacent to the recess on the inside of the folded edge. It is, however, preferred to mount the clips upon the outer side of the file or cover.

Again, instead of or in addition to mounting pairs of loops or clips upon a support, rod, or the like in the manner hereinbefore described, the pairs of loops *d* or the clips may be applied in position without such means being employed. For example, the pairs of loops *d* or clips may be applied within slots or cavities formed in the sides of the file, or within strips or cardboard or other material secured thereto, or within strips of cardboard or other material applied over the loops or clips. Open slots or cavities may for example be formed in the folded reinforcing strips, and the loops or parts of the clips may be provided of such a shape as to be wider at their ends than at their position of connection, and the open slots or cavities are provided of a corresponding shape, so that on the folded reinforcing length *e* of cardboard or other material being applied, these open slots are covered over and the loops retained therein, whereby the extraction of the loops is prevented; or again the loops or parts of the clips, of a shape such as described, may be secured within pockets formed in strips of canvas or other material secured on the outer faces of the file near the fold, or the separate or connected pairs of loops may be otherwise mounted so as to be retained in position without the necessary puncture of the sides of the file. In such cases it will be understood that the covering or reinforcing length of cardboard or other material is afterwards secured in position and may serve further to ensure the retention of the pairs of loops or clips so mounted.

In general it has been found that the clips or pairs of loops *d* may be simply made from fine steel wire, such as fine steel wire used for pianos and in forming each loop as illustrated of a more or less elongated or parabolic shape of from ¾″ to 1¼ inch or more or less in length, and ¼″ or more or less in width, and twisting each loop, so that the loops of each pair may rest flat in substantially opposite positions upon the face of the file cover or sides; it being understood that the wire between the loops is formed into a number of turns d^1, such as two or three of a diameter of ⅛″ or more or less, in such manner as to impose a tension upon the turns of wire when separating the loops *d* in the manner hereinbefore described. The turns of wire d^1 may be slightly separated, and the loops may be inclined slightly towards each other, so as to be substantially oppositely disposed.

It will be understood that the invention may be carried into effect in any other ways than hereinbefore described for incorporating the loops or clips with the file or cover, and for forming the loops or clips, whereby they may be retained in position in the manner and substantially as described.

I claim:

1. A file for papers, letters and documents, comprising two substantially symmetrical front and back parts connected together on a folding line, torsion springs disposed adjacent the said folding line, but unconnected with the said front and back parts, a pair of loops integral with each of said torsion springs, each pair of loops extending transversely to the rear edge of the file and engaging by contact and without connection the said respective front and back parts at a position adjacent the said folding line, the loops of each pair being oppositely disposed and the torsion springs having a helical from and being disposed between and connecting together the respective loops of each pair, substantially as hereinbefore described.

2. A file for papers, letters and documents comprising two substantially symmetrical front and back parts connected together on a folding line, torsion springs disposed ad-

jacent the said folding line but unconnected with the said front and back parts, a pair of loops integral with each of said torsion springs, each pair of loops extending transversely to the rear edge of the file and engaging by contact and without connection the said respective front and back parts at a position adjacent the said folding line, the loops of each pair being oppositely disposed and the torsion springs having a helical form and being disposed between and connecting together the respective loops of each pair and a support for the said torsion springs and their respective integral pairs or loops, the said support being unconnected with the said front and back parts and passing through the torsion springs, substantially as hereinbefore described.

3. A file for papers, letters and documents comprising two substantially symmetrical front and back parts connected together on a folding line, torsion springs each made of a single length of fine wire disposed adjacent to and externally of the said folding line but unconnected with the said front and back parts, a pair of loops integrally formed with each of said torsion springs, each pair of loops extending transversely to the rear edge of the file and engaging the said respective front and back parts thereof by contact and not by connection at a position adjacent thereto, the loops of each pair being oppositely disposed and the torsion springs having a helical form and being disposed between and connecting together the respective loops of each pair, a support for the said torsion springs and their respective integral pairs of loops, the said support being unconnected with the said front and back parts and passing through the said torsion springs and means for enclosing the said torsion springs and their respective integral pairs of loops, substantially as hereinbefore described.

4. A file for papers, letters and documents, comprising two substantially symmetrical front and back parts connected together on a folding line, torsion springs disposed adjacent the said folding line but unconnected with the said front and back parts, a pair of loops integral with each of said torsion springs, each pair of loops extending transversely to the rear edge of the file and engaging by contact and without connection the said respective front and back parts thereof at a position adjacent the said folding line, the loops of each pair being oppositely disposed and the torsion springs having a helical form and being disposed between and connecting together the respective loops of each pair, and a rod disposed adjacent and parallel with the folding line of the file for the support of the torsion springs, and their respective integral pairs of loops, the said rod being unconnected with the said front and back parts, the torsion springs being mounted upon and engaging the said rod, substantially as hereinbefore described.

5. A file for papers, letters and documents, comprising two substantially symmetrical front and back parts connected together on a folding line, torsion springs disposed adjacent the said folding line but unconnected with the said front and back parts, a pair of loops integral with each of said torsion springs, each pair of loops extending transversely to the rear edge of the file and engaging by contact and without connection the said respective front and back parts at a position adjacent the said folding line within transversely disposed pockets respectively provided upon the said front and back parts, the loops of each pair being oppositely disposed and the torsion springs having a helical form and being disposed between and connecting together the respective loops of each pair, substantially as hereinbefore described.

6. A file for papers, letters and documents, comprising two substantially symmetrical front and back parts connected together on a folding line, torsion springs disposed adjacent the said folding line but unconnected with the said front and back parts, a pair of loops integral with each of said torsion springs, each pair of loops extending transversely to the rear edge of the file and engaging by contact and without connection the said respective front and back parts at a position adjacent the said folding line, the loops of each pair being oppositely disposed and the torsion springs having a helical form and being disposed between and connected to the respective loops of each pair, and reinforcement applied upon the file at the said front and back parts over the folding line, the said reinforcement being permanently secured and enclosing the said torsion springs and their respective integral loops, and extending at the said back part beyond the position at which it extends at the said front part, substantially as hereinbefore described.

7. A file for papers, letters and documents, comprising two substantially symmetrical front and back parts connected together on a folding line, torsion springs disposed adjacent the said folding line but unconnected with the said front and back parts, a pair of loops integral with each of said torsion springs, each pair of loops extending transversely to the rear edge of the file and engaging by contact and without connection the said respective front and back parts at a position adjacent the said folding line, the loops of each pair being oppositely disposed and the torsion springs having a helical form and being disposed between and connecting together the respective loops of each pair, and a folded reinforcing strip applied at the said front and back parts over the folding line, and enclosing the said torsion springs

and their respective integral loops, the said reinforcing strip extending at the front of the file to a line parallel with the rear edge of the file adjacent a position at which the said front part may fold in raising the said front part, the said reinforcing strip extending at the back part substantially beyond the said line, substantially as hereinbefore described.

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