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(56) Documents cited  
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GB 0360764 US 3807572

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(54) **Loose leaf file with interchangeable spine**

(57) A loose leaf file includes a top cover portion (2), a bottom cover portion and interchangeable spine (4) for interconnecting the top and bottom cover portions in such manner that the separation between the top and bottom cover portions can be varied or adjusted to vary the storage capacity of the file. Conveniently, the spine (4) provides a replaceable spine construction including arrangements whereby the spine can be releasably connected to flexible elongate members secured to the top and bottom covers, the spine constructions having depths according to the required file storage capacity. In alternative embodiments, the loose sheets are retained by rings, fixed uprights cooperating with U-shaped formations, extendible uprights or are held in a variable depth box-file.

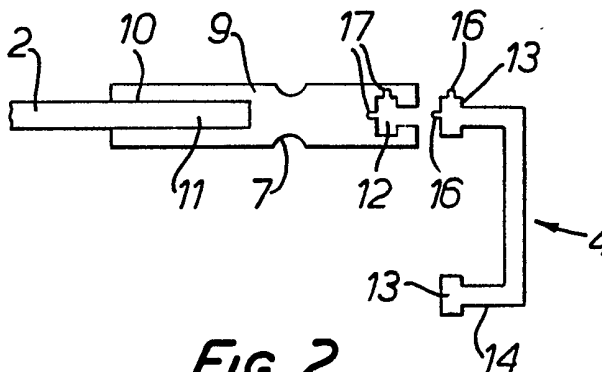


FIG. 2.

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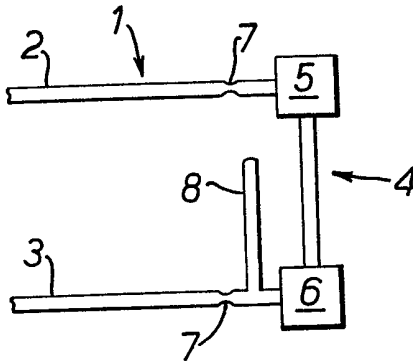


FIG. 1.

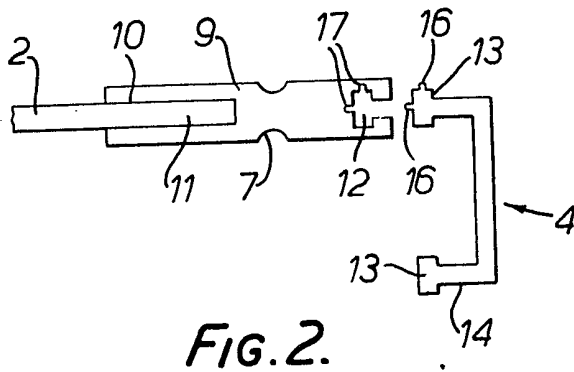


FIG. 2.

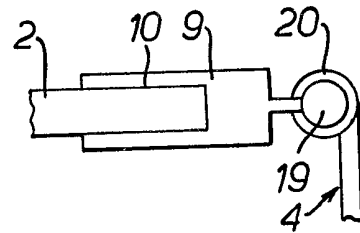


FIG. 3.

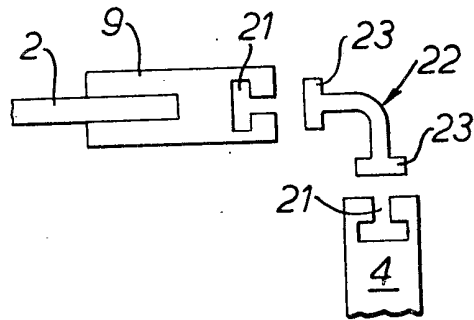


FIG. 4.

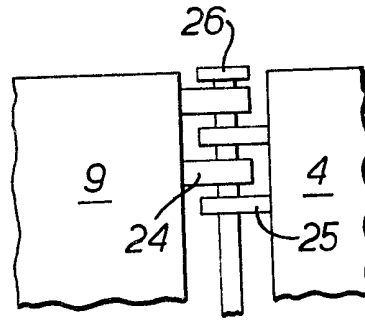


FIG. 5.

## SPECIFICATION

### Sheet material file arrangement

5 This invention relates to arrangements for filing sheets of paper or the like.

10 It is very well known to file loose sheets of paper within file wrappers comprising top and bottom covers interconnected by a back spine formation such that the combination of the top and bottom covers and the spine provide a protective assembly which may be likened to a book cover.

15 Various means for holding papers within the covers have been proposed. Commonly known arrangements for the sheet retention include split ring or the like constructions, metal strips which are intended to engage suitably spaced apertures in the paper sheets and to be deformed to overly the paper sheets after engagement etc.

20 Generally speaking with the known forms of file wrapper there is no possibility of expanding its paper storage capacity.

25 It is an object of the present invention to provide a filing arrangement for sheet material which is capable of providing for a selectively variable storage capacity.

30 Broadly, according to the present invention there is provided a file or storage arrangement for sheets of paper or the like, the file or arrangement including a top cover portion, a bottom cover portion and means for interconnecting the top and bottom cover portions in such manner that the separation between the top and bottom cover portions may be selectively adjusted.

35 Preferably, the interconnecting means includes a back spine construction which is releasably securable to the top and bottom cover portions whereby spine constructions affording selectively different spacings between the cover portions may be utilised.

40 Conveniently, each cover portion is provided with a first part of a releasable connection, and the spine construction includes two separate second parts of a releasable connection which second parts are adapted for releasably connection with an associated one of the cover portions.

45 Preferably, one of said parts of the releasable construction includes an elongate recess extending lengthwise of a cover portion, and the second part of the connection includes an engagement member adapted slidably to engage with the recess.

50 In further form of the releasable connection an elongate recess forms the parts of the connection on the spine construction and the engagement members are provided on the cover portions.

55 For a better understanding of the invention and to show how to carry the same into effect reference will now be made to the accom-

65 panying drawings in which:—

*Figure 1* schematically illustrates a cross sectional view of a file or storage arrangement as generally proposed by the features of the invention;

70 *Figure 2* schematically illustrates the details of a first embodiment of the invention;

*Figure 3* schematically illustrates the details of a second embodiment of the invention;

75 *Figure 4* schematically illustrates a third embodiment of the invention and

*Figure 5* schematically illustrates a fourth embodiment of the invention.

80 Referring now to Fig. 1 a file or storage arrangement 1 for housing a plurality of sheets of paper in such manner that the sheets are held in place by means adapted to locate with spaced apertures provided in each sheet includes a top cover 2, a bottom cover 3 and a spine construction 4. The formation of the covers 2 and 3 and the spine construction 4 are such that the spine construction 4 may be removed from the covers and interchanged with other spine constructions enabling a greater or lesser separation between the covers 2 and 3 thereby enabling selective variation of the storage capacity of the file.

85 To enable such interchangeability the joint regions 5 and 6 respectively provided between the top cover 2 and the spine construction 4 and between the bottom cover 3 and the spine construction are such as to provide the requisite demountable connection. The demountable connections 5 and 6 may take a variety of forms. Some of these forms will be discussed hereinafter in relation to the several Figures of the accompanying drawings.

90 Before considering in detail any one of the particular constructions of the demountable connections it is thought convenient to note that in the use of the file it is necessary to be able to open or displace the top cover from the overlying position on the content of the file so as to expose the contents. In practice, this requirement is met by providing a suitably located fold line between the top cover 2 and the adjacent portion of the spine construction 4. This fold line is shown at 7. If considered desirable a further fold line can be provided between the bottom cover and the adjacent region of the spine construction.

95 In addition to the need to provide for the opening and closing of the file 1 it is necessary to provide means for retaining the individual sheets of paper in the file. Conventionally, each piece of paper to be filed is provided with two or more spaced apart holes each at a defined distance inwards of an edge of the sheet, namely the sheet edge that is to be adjacent to the spine construction 4. In so far as the present application is concerned the retaining means can comprise any of the well known arrangements conventionally provided for engagement with said holes in the paper sheets.

100 For example, the retaining means 8 can

comprise a pair of spaced apart upstanding pins which are able to engage in the holes of the paper sheets, together with means for engaging with the upper ends of the pins so as to prevent in their engaged position removal of the paper sheets from the upstanding pins. The engagement means can involve spring loaded locking means or lever operable locking means.

Referring now to Fig. 2 this schematically shows a first embodiment of the file or storage arrangement of the invention and, in particular, the form of the above mentioned demountable connections 5 and 6. In the Fig. 2 embodiment the interconnection between the top cover and the spine construction comprises an elongate first mounting part 9 having along a longer edge thereof a first slot 10 which is engaged by one of the edge regions 11 of the top cover 2. The edge region may be secured to the part 9 by adhesive or by a mechanical fitment such as pins. A second slot 12 is provided along the opposite edge of the mounting part 9. This second slot has an essentially T-shaped cross section and is intended to act as a locating an guide slot for a Tee-shaped projection 13 provided along a longer edge region of the spine construction 4.

It will be understood that the relative dimensions of the walls of the slot 12 and the projection 13 are such that the projection is a relatively firm fit in the slot so that the projection will not readily disengage from the slot 12.

At the same time the fit is such that the cover 2 can be removed when it is required so to do. A similar connection is provided between the bottom cover 3 and the other longer edge region 14 of the spine construction 4.

It will be appreciated that the embodiment of the Fig. 2 could be modified by providing the projection on the cover 3 and the recess in the spine construction.

To facilitate the opening and closing of the top cover a crease line or the like 15 is defined between the top cover 2 and the portion of the part 9 with the first slot 10. As shown the crease line is produced by providing a shallow concave depression 16 on the upper and lower faces of the part 9.

To provide for different overall thickness or depth of the file 1 the separation between the two projections 13 on a spine may differ from spine construction to spine construction. In other words a graded series of spine depths may be provided as to enable a range of file thicknesses to be available to the file user.

If desired a locking arrangement may be provided for retaining the covers and spine constructions in relative positions. Such locking means can comprise a pip or the like provided at an end of the member 13 or at spaced locations along the length thereof

which engage correspondingly located recesses in the mounting part 9. It will be understood that the pips could be on the part 9 and the recesses on the member 13. The pip and recesses are shown at 16 and 17.

Since the pips and recesses can be at various locations the Figure shows two possible locations.

Referring now to Fig. 3 this illustrates an embodiment which is essentially a variation of that of Fig. 2. In the Fig. 3 arrangement the projecting member 19 is shown to be associated with the cover mounting part 9 and to have a part circular cross-section, whilst the recess 20 for receiving the member 19 has similarly shaped cross-section. As in the previous embodiment the member 19 could be on the spine construction 4.

Conveniently, the crease or fold line facility is formed by either providing the recesses as involved with the previous embodiment.

Fig. 4 illustrates a third embodiment of the invention in which both the mounting part 9 and the spine are provided with profiled recesses 21 which are preferably of the same dimensions. A slide element 22 have two corresponding formed tee shaped members 23 adapted for engagement with the recesses 21 is utilised to connect the cover 2 or 3 to the spine construction. With this arrangement the slide element is adapted to provide the flexibility for the opening and closing of the associated cover. This flexibility can be provided by the resiliency or flexibility of the slide element 22 or if thought more convenient crease lines (not shown) may be formed in the element 22.

Fig. 5 illustrates a fourth embodiment of the invention in which the form of interconnection between the cover mounting parts 9 and the spine construction includes projecting members 24 and 25 respectively provided on the part 9 and the spine construction which members 24 and 25 are profiled so as to be able to interlock with each other or are such as to be able to interdigitate in the manner of a hinge. In the latter case a retaining pin 26 is provided to retaining the interdigitating elements in co-operation with each other.

The pin can be retained in place by any convenient means such as a retaining nut engaging a threaded part at the end of the pin or a turnbuckle form of lock.

It will be appreciated that the formation of the members 24 and 25 and the resulting hinge action provides for the opening and closing of the covers 2 and 3.

It will be appreciated that with any filing system such as above described it is important that any paper stored in the file should be readily available to allow reading, or insertion/removal. This facility is conventionally provided for in a number of ways. For example, the well known split ring formation which often includes a series of pairs of C-

shaped locking elements mounted upon the spine or rear cover in such manner that each pair of C shaped elements can be displaced between a closed setting in which they co-operate to provide a closed ring and in which the free ends of the elements abut firmly together, and an open position in which papers can be added or removed.

In order to take into account the variability of the spine depth it is proposed as a further feature of the invention to provide a paper sheet retaining arrangement which is expansible in terms of sheet holding capability to take into account the change in depth of the spine.

One possible arrangement includes a variation of the filed paper retaining system including a pair of spaced apart fixed uprights upon which paper sheets are engaged, and a pair of pivoted members providing two limb portions whose free ends can co-operate with the upper ends of the fixed uprights to provide two spaced apart U formations which prevent removal of paper engaged upon the uprights. In order to accommodate the spine depth variability the uprights are designed so that they can receive extension pieces which allow increase in the overall depth of a stack of filed papers. In addition, the pivoted members can also be extended in length so as to enable the free ends thereof to continue to be able to co-operate with the extended length uprights.

A further extension of the concepts of the invention is to the formation of a variable depth box file construction. This extension is achieved by providing wall forming arrangements which are able to engage with the edges of the top and bottom covers. Thus, for example, a wall forming construction which allows the enclosure of the open three sides of the file wrapper produced by the combination of a spine with the top and bottom covers.

Such a construction will include a locking system to hold the wall structure in its fitted position. It will be understood that if the spine, top and bottom covers and the wall forming construction are formed from flame or fire retardent materials the safety of the filed contents would be correspondingly increased in respect of fire hazards.

It will be further understood that various formations of wall forming constructions are readily possible. In general, the main requirement is that the wall structure should be able to enclose the normally open sides of the file.

If desired the construction of the spine can be adapted so that the spine structure can form the base portions of a hanging file system pockets. By providing spines of the differing widths the storage capacity of the pockets can be varied as required.

#### CLAIMS

1. A file or storage arrangement for sheets of paper or the like, the file or storage arrangement including a top cover portion, a

bottom cover portion, and interengageable means for interconnecting the top and bottom cover portions in such manner that the separation between the top and bottom cover portions can be selectively varied or adjusted thereby correspondingly to vary the storage capacity of the file or storage arrangement.

2. A file or storage arrangement as claimed in claim 1, wherein the means for interconnecting includes a 'book back' or spine construction adapted for releasable connection to the top and bottom cover portions whereby interconnection means of various dimensions may be used thereby selectively to enable said variation of the storage capacity of the file or storage arrangement.

3. A file or storage arrangement as claimed in claim 2, wherein each cover portion is provided with a first part of a releasable interconnection means, and the 'book back' or spine construction includes two spaced second parts of the releasable construction which second parts are adapted for releasable connection with the first parts.

4. A file or storage arrangement as claimed in claim 3, and wherein either of the first and second parts includes an elongate recess extending lengthwise thereof and the other of said parts includes a member adapted for engagement with the elongate recess.

5. A file or storage arrangement as claimed in claim 4, and wherein the elongate recess is provided in the first part, and wherein the recess has a shaped cross-section for receiving a complementarily shaped projection which defines said members of the second part.

6. A file or storage arrangement as claimed in claim 4, and wherein the elongate recess is provided in the second part and a complementarily shaped projection defining a member adapted for engagement with the recess is provided on the first part.

7. A file or storage arrangement as claimed in claim 3, wherein the second part of the interconnection means forming the 'book back' or spine construction incorporates an elongate body section whose longer edge regions are provided with locating means adapted for releasable interengagement with complementary locating means provided on first and second elongate members connecting with the top and bottom cover portions.

8. A file or storage arrangement as claimed in claim 7, wherein the locating means on the elongate edge regions includes a profiled recess or projection, and the locating means provided on the first and second elongate members include complementary projections or recesses.

9. A file or storage arrangement as claimed in claim 7, wherein the locating means of the edge regions and of the elongate members are either recesses or projections, and wherein elongate key like connect-

ing members having recesses or projections complementary to those of the edge regions or elongate members are adapted for engagement therewith to provide said interconnection.

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10. A file or storage arrangement as claimed in claim 3, wherein the releasable interconnection means includes a hinged connection for each cover portion.

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11. A file or storage arrangement as claimed in any one of the preceding claims, wherein the interchangeable means effectively closes or covers in one edge region of the file or storage arrangement, and wherein means are provided for providing walls or the like for closing or covering the remaining edge regions of the file or storage means, the arrangement being such as to form a box file construction.

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12. A file or storage arrangement as claimed in any one of the preceding claims, wherein the pins or like arrangements provided for retaining papers or the like in the file or storage arrangement are adapted for lengthwise adjustment thereby to accommodate variations in the storage capacity of the file or the file or storage arrangement arising from variation in the separation between the cover portions.

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13. A file or storage arrangement constructed and arranged to operate substantially as hereinbefore described with reference to the Fig. 1, 2, 3, 4 or 5 of the accompanying drawings.