Sept. 15, 1942. J. M. JONES ET AL 2,295,952

COMPARATIVE DATA FILE

Filed May 27, 1941

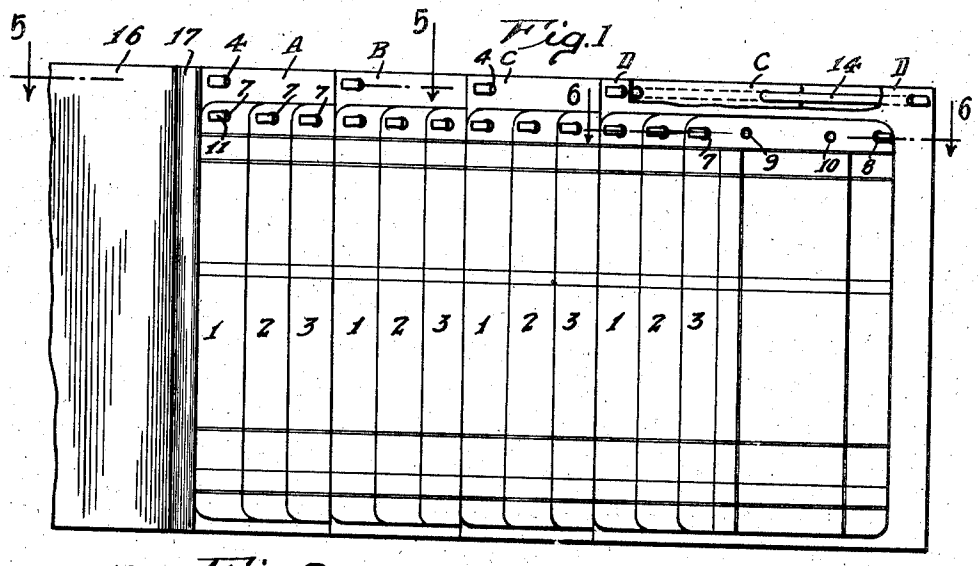


Fig. 1

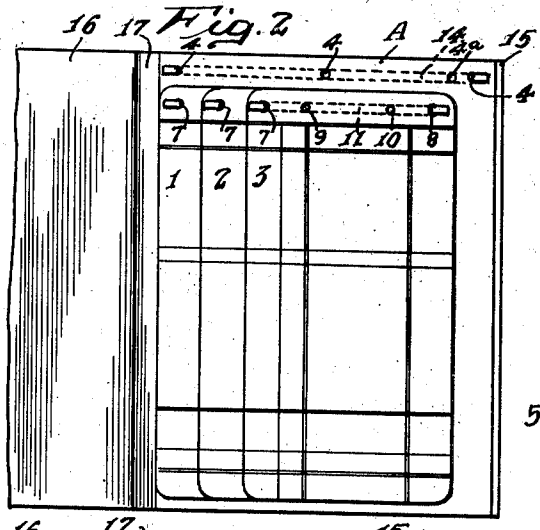


Fig. 2

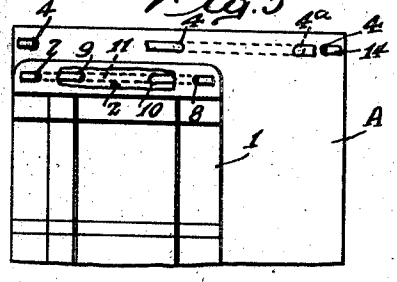


Fig. 3

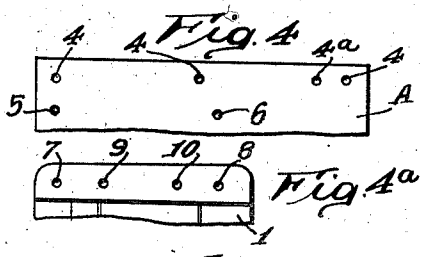


Fig. 4

Fig. 4a

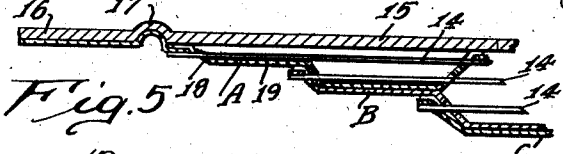


Fig. 5

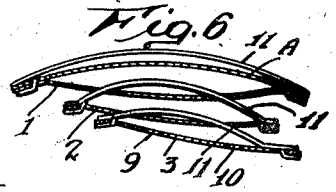


Fig. 6

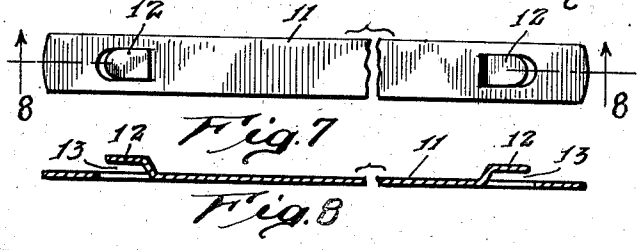


Fig. 7

Fig. 8

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COMPARATIVE DATA FILE

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Application May 27, 1941, Serial No. 395,374

5 Claims. (Cl. 129—16.5)

This invention relates to a type of file composed of sheets containing entries extending over different periods of time, and which are connected together in such a way that they can be moved laterally into an echelon position so that the entries on corresponding columns and lines of the different sheets can be seen simultaneously. In constructing a file having these characteristics, and which is capable of covering an extended period of time such as a year, it is difficult in practice to keep the sheets properly aligned with each other horizontally, that is to say, in a direction across the sheets, when they are fully extended. This is partly due to the fact that there must be a certain amount of play in the connections between the sheets, to permit them to be extended into their echelon arrangement. In the practical use of files of this type, each sheet carries a column at the edge, for example, the left edge, on which entries are made, and each sheet usually corresponds to a certain month. In the practical use of the file the sheets are shifted laterally into an echelon arrangement, so that the corresponding column adjacent the same edge of the juxtaposed sheets are exposed alongside of each other. In this way monthly totals in a business, or similar entries over a considerable time can be displayed for comparison alongside of each other. Where this period of time is a year or longer, it involves the use of twelve or more light sheets which are not easy to handle when fully extended, and which cannot be so readily collapsed into their normal folded juxtaposed condition. One of the objects of this invention is to overcome this difficulty, and to provide means whereby such sheets can be more readily extended and folded back into their juxtaposed condition.

Furthermore, as reports of business are often rendered quarterly, one of the objects of the present invention is to provide simple means whereby the report sheets can be readily handled in quarterly sets; that is to say, each set of sheets corresponding to a period of three months.

The connections between the sheets which enable them to be normally held in juxtaposed position and extended in echelon arrangement when desired, preferably involve the use of relatively thin flat bars or splints, which are threaded or woven through perforations formed in the adjacent edges of the sheets.

One of the objects of the invention is to provide a splint of simple construction, which is admirably adapted for performing the functions suggested above.

Further objects of the invention will appear hereinafter.

The invention consists in the novel parts and combination of parts to be described hereinafter, all of which contribute to produce an efficient comparative data file.

A preferred embodiment of the invention is described in the following specification, while the broad scope of the invention is pointed out in the appended claims.

In the drawing:

Fig. 1 is a plan of a file embodying the invention when the file is adapted for comparing quarterly data records, a portion of the cover being broken away, and also a portion of one of the sheets of the file being broken away so as to disclose more clearly the manner in which the invention is practiced.

Fig. 2 is a plan similar to Fig. 1, but illustrating a file composed of three sheets corresponding to the three periods of time, such as quarterly periods. This view indicates the three sheets corresponding to such a quarterly period in echelon arrangement.

Fig. 3 is a plan illustrating the bottom sheet of the three sheets shown in Fig. 2, together with a portion of the carrier sheet that corresponds to, and which carries, the three monthly sheets indicated in Fig. 2. The lower part of this view is broken away, and in this view also the position and relation of the splint is indicated, that attaches the next carrier sheet in position, with portions of the same broken away.

Fig. 4 is a plan of the upper end of one of the carrier sheets particularly illustrating the arrangement of perforations in this sheet, that adapts it to perform its functions in cooperation with the splints and the other sheets.

Fig. 4*a* is a similar view illustrating the upper end of one of the data sheets, also illustrating its perforations and their arrangement, which enables this data sheet to cooperate with the carrier sheet.

Fig. 5 is a horizontal section taken about on the line 5—5 of Fig. 1, illustrating the arrangement of the carrier sheets of the file, and connecting splints in the extended condition illustrated in Fig. 1. The sheets are offset from each other considerably in an exaggerated manner, so as to enable their relation to each other and to each splint, to be clearly disclosed.

Fig. 6 is a section similar to Fig. 5, taken along the line 6—6 of Fig. 1, and illustrating more or less diagrammatically, the manner in which a

set of data sheets is mounted shiftably on one of the carrier sheets.

Fig. 7 is a plan view of one of the splints, the middle portion of which is broken away.

Fig. 8 is a section taken through Fig. 7 on the line 8—8, and further illustrating details of the construction of the splint.

In practicing this invention, we provide a file composed of a plurality of juxtaposed carrier sheets, each of which carries a certain number of data sheets. We also provide means for connecting the carrier sheets together so as to enable them to be shifted laterally relatively to each other, into an echelon arrangement. The data sheets are provided with vertical columns and are mounted on their corresponding carrier sheets so as to enable them to be shifted laterally with respect to each other on the carrier sheets, that is to say, along a horizontal line. The file is adapted to be built up sheet by sheet, as the data sheets are added for the different periods of time to which they relate—for example, one month. The arrangement is such that the lateral shift of the carrier sheets cooperates with the lateral shift of the data sheets to enable corresponding columns of all the data sheets that are located toward the same side of the sheets, to be exposed simultaneously to view. In this way the corresponding columns for the entire period of time covered by the file, can be viewed simultaneously and the entries compared.

Although in the following specification the sheets are described as constructed for a lateral shift to the right to enable them to expose the left-hand columns of all the data sheets, it should be understood that if desired, the file can be constructed in a reverse way to enable it to be capable of shifting to the left-hand side instead of to the right, if it is desired to expose the right-hand columns of the sheets instead of the left-hand columns. Furthermore, although it is expected that the file will be most useful when constructed to expose a single column in echelon, it should be understood, of course, that by allowing more exposed space, two or more columns at the left of each sheet could be displayed.

The splint, which constitutes an element of this invention, is preferably constructed so that it has a certain amount of stiffness and resiliency. This greatly facilitates its being woven or threaded through the perforations in connecting the leaves together, and insures that once in place the splints will maintain themselves in the relation in which they are left, particularly as regards the sheet or sheets that are engaged by the ends of the splints.

It will facilitate a disclosure of the invention to refer to Fig. 2, in which A indicates the first carrier sheet of the file. On this sheet three data sheets 1, 2 and 3 are attached in such a way as to render them capable of assuming a more or less perfectly juxtaposed position on each other, and so that they are also capable of shifting laterally. In the present instance this lateral shift is toward the right. In Fig. 3 the bottom sheet 1 of the data sheets is illustrated, and this sheet is preferably secured in a fixed position on the carrier sheet A. The sheets 2 and 3 are mounted on the sheet 1 so that they are capable of lateral shifting on this sheet. In order to accomplish this, each carrier sheet is provided with an upper row of perforations 4 and 4a (see Fig. 4) which cooperate as will be described hereinafter in the lateral shifting of the carrier sheets; and in addition to these perforations 4, each carrier sheet is provided with a second row or set of perforations 5 and 6 which, in the present instance, are two in number. The perforation 5 is located over toward the left edge of the sheet, and the other is located near the middle vertical axis of the carrier sheet.

The bottom sheet 1 and, in fact, all of the data sheets are provided with outside perforations 7 and 8, and in the present instance, two inside perforations 9 and 10. In making up the file, the sheet 1 is applied to the upper face of the carrier sheet A with the perforations 7 and 8 in register respectively, with the perforations 5 and 6. This sheet 1 may be secured in this position by any suitable means, but in doing so we prefer to employ a splint 11 such as illustrated in Figs. 7 and 8. This splint is applied with its body located on the under side of the carrier sheet A as illustrated in Figs. 2 and 6. The splint is formed at each end with means for engaging in the registering openings 5, 6 and 7, 8, so as to secure these sheets together. The splint that we prefer to use for this purpose, is formed with an integral offset tongue 12 that is struck out from the material of the splint at each end. Each of these tongues projects toward the adjacent end of the splint. Each tongue is offset far enough to form a throat 13 that is sufficiently wide to receive and hold two or more sheets which are to be connected together. In the present instance, as illustrated in Fig. 6, each tongue 12 engages the edges of the two registered openings 5 and 7; and 6 and 8; in the manner indicated. In reading Fig. 6 it should be understood that this splint and the carrier sheet A and other sheets are represented as bowed so as to displace them from each other and enable the relation of the splints to the perforations, and the different connected sheets, to be more readily observed. The data sheets 2 and 3 are connected up to the inner data sheet 1 by utilizing the perforations 9 and 10 in the manner indicated, that is to say, each splint 11 is woven through the perforations 9 and 10 from above, the ends of the splints being secured in the outside openings 7 and 8.

The perforations 7 and 8 in the data sheets may be the same perforations that are used on the sheets for connecting them into loose-leaf files. Such a file may require a perforation at the bottom of each data sheet corresponding in position to the perforation 7 shown in Fig. 4a. This, however, is not illustrated in the drawing.

In addition to the bottom carrier sheet A, we may employ similar carrier sheets B, C, D. We prefer to provide four of these carrier sheets to correspond respectively with the four quarters of the year, each carrier sheet carrying three data sheets corresponding to the months of each quarter. Each of the carrier sheets is provided with three perforations 4, 4, 4, as indicated in Fig. 4, disposed in a horizontal or transverse row near the upper edge of the sheet and above the perforations 5 and 6. The intermediate perforation of the three perforations 4, 4, 4 is preferably located near the middle vertical axis of the sheet. Over toward the right of the carrier sheet, if the shift is to be toward the right, the perforation 4a is provided.

These perforations are utilized in cooperation with long splints 14, threaded through the perforations in a manner quite similar to that illustrated in Fig. 6, in which the splints 11 are employed. Fig. 2 illustrates one of these splints 14

applied on the bottom carrier sheet A to secure the same to a back 15 which may be in the form of a folder, including a cover flap 16 which folds over the connected sheets at a folding zone 17. The splint 14, used at this point, would be passed through two perforations in the back 15, registering with the two outside perforations 4 of the sheet A.

In attaching the carrier sheet B to the sheet A, the middle perforation 4 would be used and the perforation 4a, the splint 14 being secured at its ends in the outside perforations 4 of the sheet B and threaded down through the middle perforation 4 of the sheet A and up through the perforation 4a, as indicated in Fig. 3. The carrier sheets C and D would be attached similarly at the front of the carrier sheet B. The relation of the connected-up carrier sheets is illustrated in an exaggerated way in Fig. 5. In Fig. 5 the back 15 is illustrated as being of considerable thickness, in which case the bottom carrier sheet A may be secured at its left edge in a perforation 18 formed in a binder strip 19 which extends longitudinally with the folding zone 17 of the back 15.

In practice, if desired, carrier sheets such as the carrier sheets A, B, C and D, can be mounted in loose-leaf ledgers on posts passing through the perforations 4, 4, 4, or two of them, and as soon as three data sheets have been attached on one of the carrier sheets, the carrier sheet with its three data sheets can then be transferred to this file.

The carrier sheets are preferably of slightly heavier material than the data sheets. This gives considerable stiffness to the extended sheets of the file and enables them to be readily shifted back into the juxtaposed position for the carrier sheets. As the carrier sheets are shifted back into juxtaposed position, the data sheets also shift into their juxtaposed position.

In practice, the splints are made of very thin metal. This prevents building up considerable thickness in the closed-up file. This is advantageous because it is evident that if there were many sheets in the file there would also be the same number of splints connecting each sheet into position. By placing the splint connections for the carrier sheets out of line with the splint connections for the data sheets, relatively thicker and stronger splints can be employed for the carrier sheets without affecting the total thickness or "build-up" of the juxtaposed sheets in the closed-up file.

Many other embodiments of this invention may be resorted to without departing from the spirit of the invention.

What we claim is:

1. In a file adapted to facilitate comparisons of entries extending through a relatively long time period, the combination of a plurality of juxtaposed carrier sheets, means for connecting said carrier sheets together so as to enable the same to be shifted laterally relatively to each other along a horizontal line into an echelon arrangement; a set of juxtaposed data sheets carried on each of the carrier sheets and having columns thereon for the entry of data, said columns corresponding to relatively short time periods; means for connecting the individual data sheets of each of said sets so as to enable the same to be normally held superposed with the corresponding columns in register, and also shifted transversely to the columns and laterally with respect to each other into an echelon arrangement; the lateral shift of the carrier sheets cooperating with the shift of the data sheets to enable corresponding columns of all the data sheets toward the same side of the sheets, to be exposed simultaneously to view.

2. In a file adapted to facilitate comparisons of entries extending through the period of a year, the combination of a plurality of juxtaposed carrier sheets, each sheet corresponding to a fraction of a year, means for connecting said carrier sheets together so as to enable the same to be shifted laterally along a horizontal line relatively to each other into an echelon arrangement; a set of juxtaposed data sheets carried by each carrier sheet corresponding respectively to months, and constituting a fraction of the year, said data sheets having columns thereon for the entry of data corresponding to each month, means for connecting each set of data sheets to its corresponding carrier sheet and to each other so as to enable the data sheets to be normally held superposed with their corresponding columns in register and also shifted laterally, relatively, into an echelon arrangement; the lateral shift of the carrier sheets cooperating with the shift of the data sheets to enable corresponding columns of all the data sheets toward the same side of the sheets, to be exposed simultaneously to view.

3. In a file adapted to facilitate comparisons of entries extending through different time periods, the combination of a plurality of juxtaposed carrier sheets, said carrier sheets each having a row of perforations, corresponding perforations of the different sheets being in register when the carrier sheets are in their juxtaposed relation, a plurality of splints woven through the perforations, both ends of each splint being attached to the same sheet, and extending laterally on the sheets through the perforations, said splints and perforations enabling the carrier sheets to be shifted into an echelon arrangement with respect to each other, a set of juxtaposed data sheets carried on each carrier sheet, each of said sets of data sheets having perforations registering together when the data sheets are in their juxtaposed relation, said carrier sheets having a second row of perforations disposed laterally across the sheets and in line with the perforations of the data sheets, splints woven through the last-named perforations of the carrier sheets and the said perforations of the data sheets, and cooperating with the perforations to enable the data sheets to be shifted laterally with respect to each other into an echelon arrangement, said data sheets having columns for entry of items thereon; the lateral shift of the carrier sheets cooperating with the shift of the data sheets to enable corresponding columns of all the data sheets toward the same side of the sheets, to be exposed simultaneously to view.

4. In a file adapted to facilitate comparisons of entries extending through different time periods, the combination of a plurality of juxtaposed carrier sheets, horizontally disposed members for effecting sliding connections between said carrier sheets so as to enable the same to be superposed in register with each other, and shifted laterally relatively to each other into an echelon arrangement, a plurality of juxtaposed data sheets carried on the carrier sheets, having columns thereon for the entry of data, horizontally disposed links for connecting the data sheets together so as to enable the same to be superposed with the corresponding columns in regis-

ter, and shifted laterally with respect to each other and transversely of the columns into an echelon arrangement, the lateral shift of the carrier sheets cooperating with the shift of the data sheets to enable corresponding columns of all the data sheets toward the same side of the sheets, to be exposed simultaneously to view.

5. In a file adapted to facilitate comparisons of entries extending through different time periods, the combination of a plurality of juxtaposed carrier sheets, horizontally disposed members located adjacent an aligning horizontal edge of the carrier sheets, for effecting a horizontal sliding connection between said carrier sheets so as to enable the same to be normally held superposed in register with each other, and also shifted horizontally and laterally relatively to each other into an echelon arrangement, a plurality of juxtaposed data sheets carried on the carrier sheets, having columns thereon for entry of data, means located adjacent the said aligned edges of the carrier sheets for connecting the data sheets together so that the same are normally held superposed with their corresponding columns in register, and so that the sheets can be shifted transversely to the columns and laterally with respect to each other into an echelon arrangement, the lateral shift of the carrier sheets cooperating with the lateral shift of the data sheets to enable corresponding columns of all the data sheets toward the same side of the sheets, to be exposed simultaneously to view.

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