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MANIFOLD FORM SET

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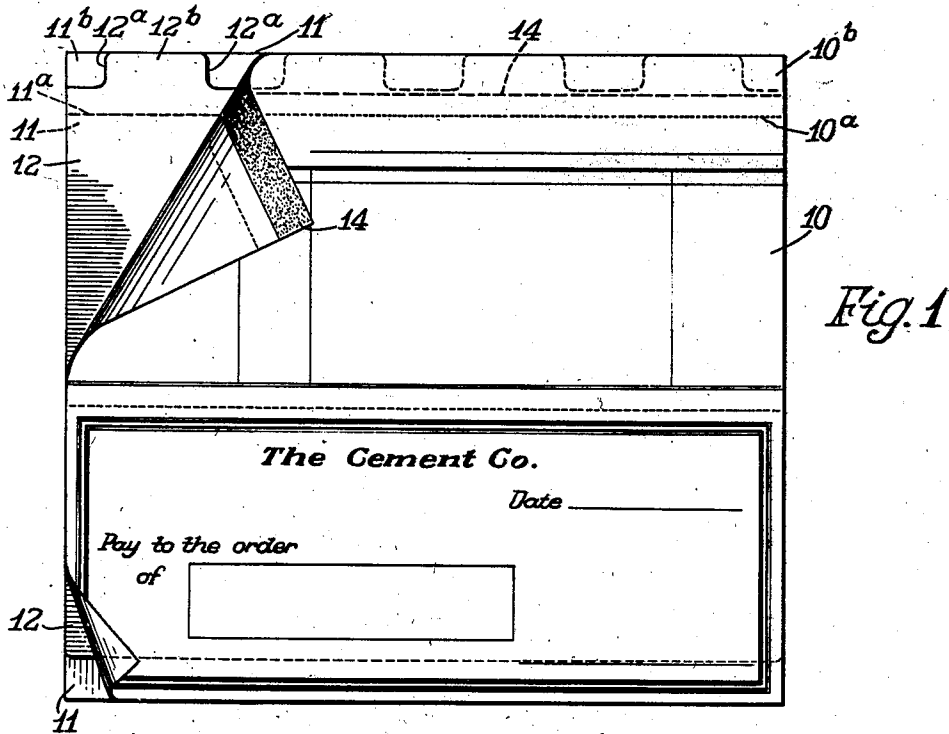


Fig. 1

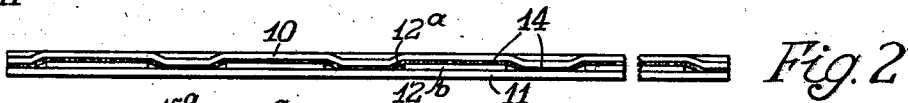


Fig. 2

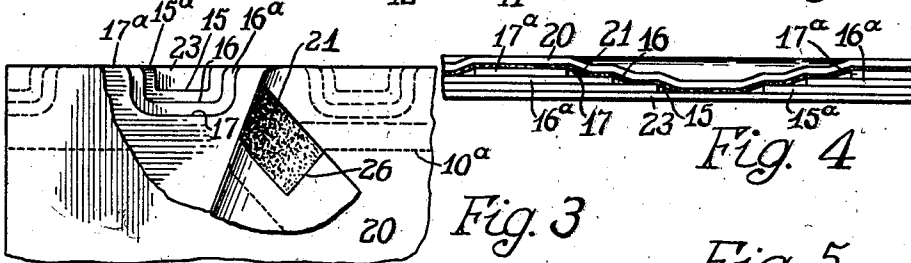


Fig. 3

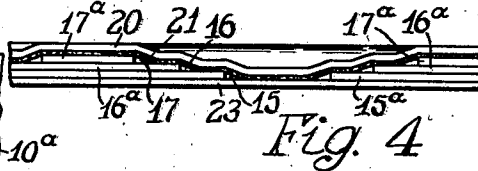


Fig. 4

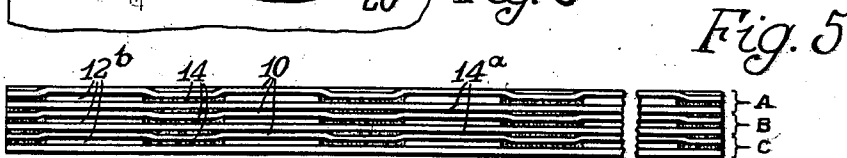


Fig. 5

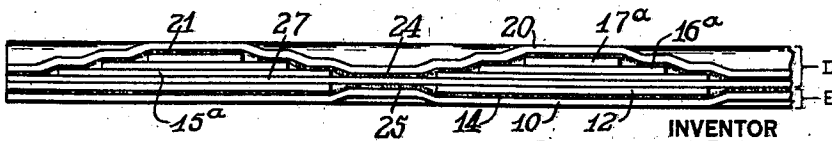


Fig. 6

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# UNITED STATES PATENT OFFICE

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## MANIFOLD FORM SET

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6 Claims. (Cl. 282—22)

This invention relates particularly to a manifold set of forms having carbon or transfer sheets interleaved between the forms, and to a method of binding such an assemblage into a complete separate unit.

The general object of the invention is to provide an improved unitary manifold assemblage of an original, one or more copy sheets and interleaved transfer sheet or sheets having an improved binding for retaining all the sheets of a unit together in a manner so that they may be handled or inserted into various conventional office files or office appliances, such as, typewriters, addressing machines, checkwriting, signing equipment and the like, without danger of readily becoming damaged or the sheets accidentally separated, and also having a means for separating the original and copy sheets from the transfer sheets when desired, after the inscriptions or type matter have been placed thereon.

A further object of the invention is to provide an improved construction to facilitate binding a predetermined number of sheets and transfer leaves together in a separate assemblage by a single application of adhesive to a normally inconspicuous side of one of the sheets of the unit.

A still further object of the invention is to provide an improved binding construction wherein the intermediate sheets and/or the transfer leaves of a unitary assemblage are notched or recessed along one edge so that a single application of adhesive to one of the sheets will secure the entire assemblage together.

Still another object of the invention is to provide a binding construction which is simple, effective and lends itself to the production of unitary assemblage of manifold forms at relative low binding cost.

A further feature of the invention resides in an arrangement adapted to permit an assemblage of record or carbon sheets, either to provide a unit comprising an original and a copy sheet with carbon sheet interposed therebetween or to provide for a unit embodying one or more superposed copy sheets with transfer sheets interposed therebetween.

A still further feature of the invention is to provide a manifold form set comprising a plurality of record and transfer sheets securely bound together in such a manner that the binding edge is not bulky and therefore resulting in a form set readily adapted to be inserted and removed from conventional office machinery.

To these and other ends the invention resides in certain improvements and combinations of

parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the accompanying drawing, Fig. 1 is a face view of a manifold form set constructed in accordance with this invention and showing the upper and lower left hand corner of the top sheet turned back to disclose in full the underlying transfer sheet and also the duplicate form sheet.

Fig. 2 is an enlarged fragmentary top or binding edge view disclosing the general relative position of the sheets when arranged in accordance with the form of this invention shown in Fig. 1.

Fig. 3 is a fragmentary face view similar to Fig. 1 showing a modified arrangement for securing a plurality of sheets and transfer members into a unitary manifold form set.

Fig. 4 is an enlarged fragmentary top or binding edge view of the modification shown in Fig. 3.

Fig. 5 is an enlarged binding edge view of a plurality of sections, such as illustrated in Fig. 2, arranged to form a unit or pad having a plurality of record sheets and transfer members.

Fig. 6 is also an enlarged binding edge view of a set of forms made up similarly to combining the sections illustrated in Figs. 2 and 4 of the drawing.

The same reference numerals throughout the several views indicate the same parts.

The present invention may be embodied in sets of forms of various character and types and is not limited to any particular form of instrument such as a single set of multi-copy business forms. In this instance, I have chosen for illustrating one form of the invention, a form set having a top sheet comprising a check and voucher and a duplicate sheet with a transfer leaf interposed therebetween.

Referring to the drawing for a detailed description, the preferred form of one of the complete manifold form sets is shown in Fig. 1. This unitary assemblage includes a top or original sheet 10, a lower or copy sheet 11, and an intermediate carbon or transfer leaf 12. The sheets 10 and 11 are provided with weakened severance lines of perforations 10a and 11a respectively, thereby providing a removable stub portion 10b and 11b. The end of the transfer leaf 12 underlying the stub portions 10b and 11b is provided with one or more notches or recesses 12a adjacent or along one of its marginal edges. The notches 12a, in this instance, are preferably of less depth than the width of the stubs normally forming part of the sheets 10 and 11 for the purpose hereinafter pointed out.

The sheets 10 and 11 as well as the transfer member 12 may be collated or gathered together by any suitable method or means, that is, by a manual or mechanical operation, either before or during such assembling operation, an adhesive 14 is applied adjacent the marginal edge of the rear side of the stub portion 10b. Therefore, it will now be seen that as and when the forms for any given set are brought in or collated in proper relation to one another, the adhesive 14 on the rear side of stub 10b of the sheet 10 will engage the transfer leaf 12 at portions 12b between the notches 12a. Similarly, the adhesive 14 will engage the duplicate sheet 11 at portions opposite the notches 12a formed in the transfer leaf. As best seen in Fig. 2, with the arrangement just described, the separate parts which go to make up the manifold form set will all be united together along their marginal edges by means of the single application of the adhesive material 14. If desired, after the application of an adhesive such as commonly used for binding purposes and the sheets have been assembled, pressure may be exerted along the marginal binding edge of the form unit to assist in proper adhesion of the sheets. One satisfactory method is to run the marginal edge of an assembled unit through a pair of pressure rollers and in this way the adhesive carried by the sheet 10 properly engages the sheet 11 and tongue 12b of the transfer sheet 12 to assure the desired binding of the manifold set.

It will be understood that the adhesive 14 may equally well be applied adjacent the marginal edge of the copy or duplicate sheet 11, rather than to the top sheet 10. The adhesive 14 may be of any desired width, that is, it may be as shown in Fig. 1 slightly engaging the edge adjacent the bottom of the notches in the carbon leaf 12 or it may be narrower than the depth of the notches formed in the carbon leaf. Furthermore, this invention is equally adaptable to bind a set of manifold forms adjacent any one of its margins, that is, along the bottom edge or either of its side edges. In certain instances it may be highly advantageous to bind the forms other than at the top portion thereof.

As shown in Fig. 1, the free end of the transfer sheet is shorter than the free ends of the original and copy sheets. Therefore, it will be seen that the arrangement now described permits of the form sheets and the transfer sheet being readily separated. When it is desired to separate the parts of a unit, one hand may grasp the stub portions 10b and 11b and with the other hand holding the sheets 10 and 11 out beyond the free end of the transfer 12, a snap separating action will cause the sheets 10 and 11 to sever from the stub portions along the weakened lines 10a and 11a. The transfer sheet held rigid with the stubs and not provided with weakened lines will be readily withdrawn from the other sheets.

The modified form of the invention disclosed in Fig. 3 is generally similar to that of Fig. 1. This embodiment provides the use of my invention to bind an original and a plurality of copy and transfer sheets. Referring to Figs. 3 and 4, the intermediate sheets and transfer sheets are provided with notches or recesses 15, 16 and 17, progressively larger or in stepped relation; for example, notches 15 provided in the first transfer leaf 15a may be shallow. The notches 16 provided in the intermediate copy sheet 16a may be somewhat larger all around than the notches 15, and the notches 17 of the transfer leaf 17a may

be still larger. With the applicant's arrangement of stepped notches for the intermediate sheets, a single application of adhesive 21 applied to the original sheet 20 will provide for securing the plurality of sheets together to make a unitary manifold form set. The enlarged showing in Fig. 4 generally discloses the manner in which the adhesive area on the original sheet 20 engages each sheet of the unit including the unnotched bottom copy sheet 23. It is obvious that the unit shown in Fig. 3 may be reversally arranged so that the adhesive 21 is applied to the bottom copy sheet 23 and the notches arranged accordingly.

A further modification is shown in Fig. 5 wherein a plurality of units such as shown in Figs. 1 and 2 are bound together to form a multi-copy form set or a pad of sets made up of an original and copy sheets with a transfer leaf interposed therebetween. Three of the units such as disclosed in Fig. 2 are lettered as A, B, and C, and shown arranged as a multi-copy set or pad of units. In collating and gluing a set of forms made up of a plurality of original and copy record and transfer sheets, it is preferable to first make up sets such as shown in Fig. 2, then apply adhesive 14a to a sheet corresponding to either 10 or 11, and then gather a predetermined number of units together into a complete multi-copy form set or a pad of forms.

The embodiment of Fig. 6 comprises substantially combining a set of forms such as shown in Figs. 1 and 2 with a set of forms corresponding to Figs. 3 and 4, so as to provide a multi-copy unitary set of manifold forms. However, it will be noted that in combining such sets into a unitary set, the intermediate sheet 27 has both adhesive portions 24 and 25 secured to it in the manner shown in Fig. 6.

It will be understood that the number and character of the notches provided in the transfer sheet or sheets and in some instances the intermediate copy sheet or sheets may be varied according to the size or particular requirement of a given form set. However, it is preferable to arrange the notch or notches provided in the sheets so that the corners at the binding edge will be secured as shown in Fig. 1 of the drawing, that is, so that the top and bottom forms of the set will be secured together at both ends of the binding edge. This construction not only tends to securely tie the sheets together so that the danger of the corners of the set becoming damaged is lessened but in providing a notch in the sheets on the corners reduces the thickness of the form set at those points and greatly facilitates the insertion of the form sets in platen carriages, etc., of office appliances. However, an occasion may arise wherein it is desirable to have one or both of the ends of the binding edge free, that is, the adhesive securing the sheets of the set is not extended the full length of the forms along the binding edge and may terminate as at 26 of Fig. 3.

It will now be clear that in each of the different embodiments of the invention that the sheets of each manifold set are secured together along and adjacent their marginal edge in a manner so that in handling a unit the corners or marginal edge will not become bent over or damaged. It is becoming more and more a commercial practice to use manifold form sets for keeping business records and for general disbursement purposes, such practices necessitate numerous handlings of the forms set into and out of files and various office appliances. Therefore, it is essential that

the forms and transfer sheet of such manifold sets be secured together in such a manner that they will not easily break or split apart, and in a manner that the corners and marginal edge do not become turned over, especially the top and bottom sheet. It is obvious, that in the event the sheets become damaged or the corners bent over, it will be difficult to readily insert a form unit into the carriages or holders of the conventional office appliances. Furthermore, in the event the sheets of a manifold set become separated or the edges become ragged or turned over, it will seriously handicap their satisfactory commercial use, especially in the routine procedure of removing and inserting the sets from a temporary file holder for debit or credit entries from time to time, prior to sending out statements or checks in payment of invoices. The applicant's improvement on binding a plurality of sheets in the manner described produces a unitary set of manifold forms, wherein the binding is of such a nature to permit handling without the danger of the forms becoming readily separated or the binding edge becoming bent or damaged and also provides means for separating the record sheets and the transfer sheets when desired.

The invention is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawing, as various other forms of the device will of course be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A unitary manifold form set including an original record sheet having a detachable binding strip along a marginal edge thereof, a duplicate record sheet also having a detachable binding strip along its marginal edge, a transfer sheet interleaved with said record sheets and having one side carbonized for transferring to said duplicate sheet, and a binding means interconnecting all of said sheets in superposed relation and at a common marginal end, said binding means comprising a continuous band of adhesive arranged along substantially the entire marginal end of the back of the detachable strip of said original sheet for connecting the other sheets of the set thereto, said transfer sheet having a plurality of substantially spaced tabs arranged along its marginal end but spaced away from the lateral side edges thereof, said tabs lying between said binding strips of the record sheets and said connection of the transfer sheet with said coated detachable strip of said original sheet being confined solely to the engagement of said adhesive with the uncarbonized face of said tabs, and said connection of the detachable strip of said duplicate sheet with the coated strip of the original sheet being confined solely to the engagement of said adhesive with those marginal portions thereof not covered by the tabs of the transfer sheet.

2. A unitary manifold form set of the type including an original record sheet having a detachable binding strip along a marginal edge thereof, a duplicate record sheet also having a detachable binding strip along its marginal edge, a transfer sheet interleaved with said record sheets, and a binding means interconnecting all of said sheets in superposed relation and at a common marginal end, the binding means comprising a continuous band of adhesive arranged along substantially the entire marginal end of the back of the de-

tachable strip of said original sheet for connecting the other sheets of the set thereto, characterized by the provision of a transfer sheet having a plurality of spaced tabs arranged along its marginal end but spaced away from the lateral side edges thereof, said tabs lying between said binding strips of the record sheets and said connection of the transfer sheet with said coated detachable strip of said original sheet being confined solely to the engagement of said adhesive with the face of said tabs, and said connection of the detachable strip of said duplicate sheet with the coated strip of the original sheet being confined solely to the engagement of said adhesive with those marginal portions thereof not covered by the tabs of the transfer sheet.

3. A manifold form set of the type including a pair of record sheets, a transfer sheet interleaved with said record sheets, and binding means interconnecting all of said sheets in superposed relation and at a common marginal end, the binding means comprising a band of adhesive arranged along substantially the entire marginal end of one of said record sheets and on the side thereof adjacent the interleaved transfer sheet for the connection of the other sheets of the set thereto, characterized by the provision of a transfer sheet having a plurality of substantially spaced tabs arranged along its marginal end but spaced away from the lateral side edges thereof, said connection of the transfer sheet with said record sheet being confined solely to the engagement of said adhesive with said tabs, and said connection of the other of said record sheets with the first mentioned record sheet being confined solely to the engagement of said adhesive with those marginal portions thereof not covered by the tabs of the transfer sheet.

4. A manifold form set of the type including a plurality of record sheets, transfer sheets interleaved with said record sheets, and binding means interconnecting all of said sheets in superposed relation and at a common marginal end, the binding means comprising a continuous band of adhesive arranged along substantially the entire marginal end of the inside face of one of the outer cover record sheets for connecting the other sheets of the set thereto, characterized by the fact that the intermediate record sheets and the interleaved transfer sheets have a plurality of tabs arranged along their marginal ends but spaced away from the lateral side edges thereof, said tabs overlying each other but being progressively enlarged so that the side edges thereof extend beyond that of the tab of a preceding sheet, said connection of the intermediate record sheets and interleaved transfer sheets with said cover sheet being confined solely to the engagement of said adhesive with said tabs, and said connection of another cover sheet of the set with said first mentioned cover sheet being confined solely to the engagement of said adhesive with those marginal portions thereof not covered by the tabs of the intermediate and transfer sheets.

5. A unitary manifold form set of the type including outer record sheets and a plurality of intermediate record sheets having a detachable binding strip along a marginal edge thereof, transfer sheets interleaved with said record sheets, and binding means interconnecting all of said sheets in superposed relation and at a common marginal end, the binding means comprising a continuous band of adhesive arranged along substantially the entire marginal end of the inside face of one of said outer sheets for connect-

ing the other sheets of the set thereto, characterized by the fact that the intermediate sheets and the transfer sheets of the set have a plurality of substantially spaced tabs arranged along their marginal ends but spaced away from the lateral side edges thereof, said tabs overlying each other but being progressively enlarged so that each underlying sheet has the side edges of its tabs extending beyond that of the tab of a preceding sheet, said connection of the intermediate record and transfer sheets with said adhesively coated detachable strip of said outer record sheet being confined solely to the engagement of said adhesive with the face of said tabs, and said connection of the other of said outer record sheets with the coated detachable strip of the first mentioned outer record sheet being confined solely to the engagement of said adhesive with those marginal portions of its detachable strip not covered by the tabs of the intermediate and transfer sheets.

6. A manifold form set of the type including a pair of record sheets having detachable binding strips along a marginal end thereof, transfer

sheet interposed therebetween, and binding means interconnecting all said sheets in superposed relation and at a common marginal end, characterized by the provision of binding means comprising a single continuous band of adhesive arranged along substantially the entire marginal edge of the inside face of the detachable strip of one of said record sheets for the connection of the other sheets of the set thereto, the transfer sheet having a plurality of spaced tab portions along its marginal end and lying between the detachable strips of the record sheets, the connection of the transfer sheet with said adhesively coated detachable marginal binding strip of the first mentioned record sheet being confined solely to the engagement of said adhesive with a face of said tab portions, and said connection of the other of said record sheets with said binding strip of the first mentioned record sheet being confined solely to the engagement of said adhesive with those marginal portions of its detachable binding strip not covered by the tabs of the transfer sheet.

HOWARD F. WOLFANGER.