June 7, 1938. H. STEVENS 2,120,161

UNITARY MANIFOLDING ASSEMBLY

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Fig. 1.

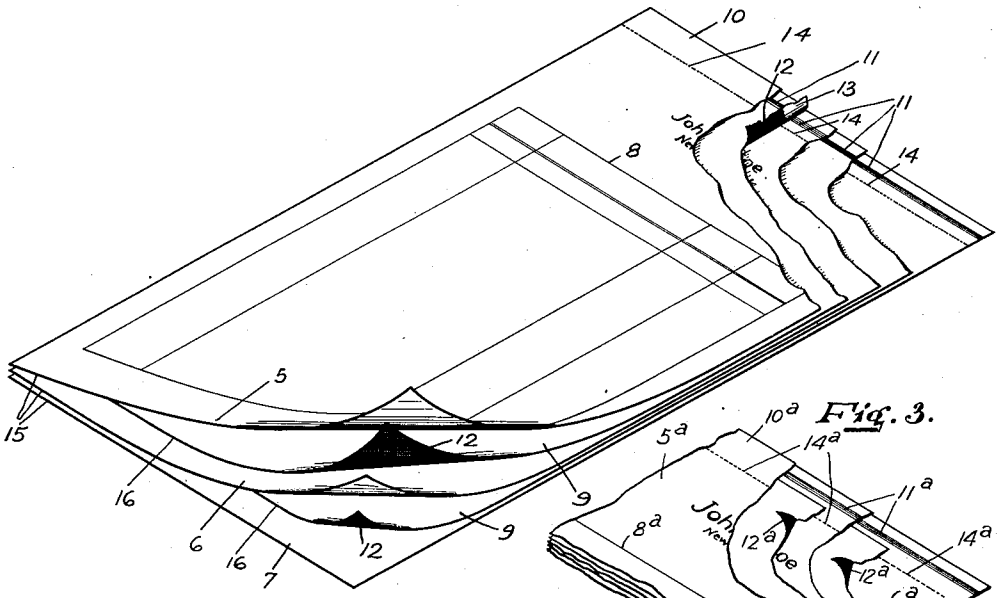
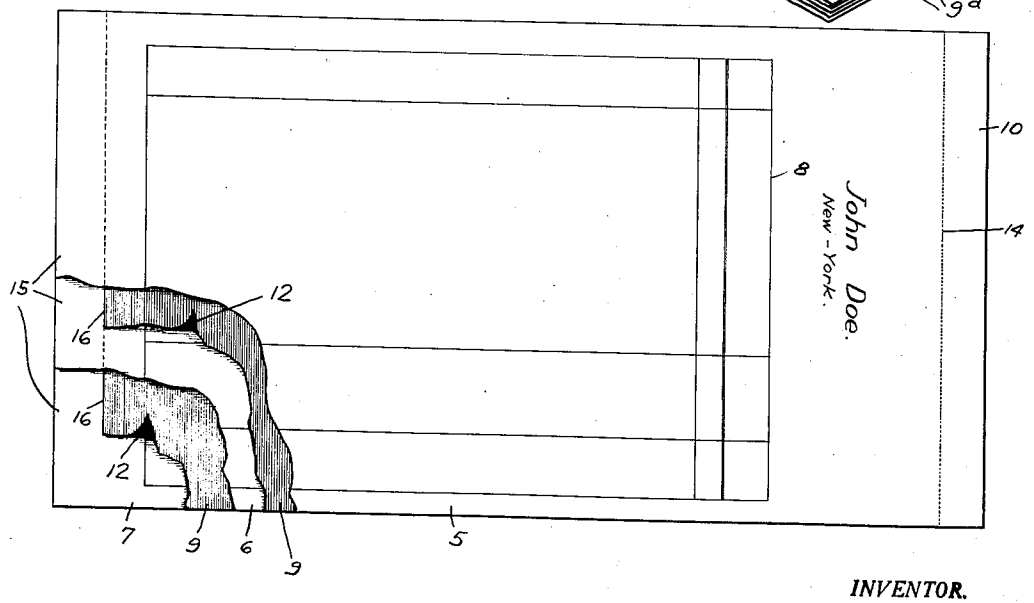


Fig. 3.

Fig. 2.



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UNITARY MANIFOLDING ASSEMBLY

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Application June 25, 1930, Serial No. 463,588

8 Claims. (Cl. 282—27)

This invention relates to improvements in manifold record devices, and with reference to more particular features thereof, it relates to improvements in a unitary manifolding assembly of record and transfer sheets adapted for use in various forms of writing machines, such as typewriters, billing machines, etc.

It is a general object of the invention to provide a manifolding assembly of the class mentioned, wherein an improved association and relation of the record and transfer sheets is provided, adapting the assembly for convenient use in various forms of writing machines.

A further object is to provide an improved manifolding assembly of the class mentioned, providing a very convenient arrangement for disassembling the record sheets from the transfer sheets and from other parts of the assembly, after inscriptions have been made.

Still another object of the invention is to provide an improved arrangement of record and transfer sheets to form a unitary, self-contained record assembly or pack, which is thin and flexible throughout its extent, adapting it for use in writing machines.

Still another object of the invention is to provide an improved assembly of record and transfer sheets in a unitary, self-contained, flexible pack, wherein the record leaves are arranged for convenient detachment, while the transfer sheet or sheets remain attached to a stub or support.

Another object of the invention is to provide an improved assembly of record and transfer sheets forming a flexible, unitary, self-contained pack, whereby the record sheets and transfer sheets may be selectively gripped so as to provide a convenient means for separating these sheets.

Other objects of the invention will be in part pointed out in the following detailed description of an illustrative but preferred embodiment of the invention, and will be in part obvious in connection therewith.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described, and the scope of the application of which will be indicated in the claims.

For a more complete understanding of the nature and objects of the invention, reference is had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of a manifolding assembly including the invention, the disclosure being partially diagrammatic and parts being broken away to facilitate the disclosure.

Fig. 2 is a plan of the assembly, and

Fig. 3 is a fragmentary perspective similar to Fig. 1, showing a modification.

According to the illustrative embodiment of the invention disclosed in the drawing, the improved manifolding assembly includes a plurality of record sheets, each having spaces preferably provided with blank forms for the reception of inscriptions. Three such record sheets are shown including an original sheet 5 at the top of the assembly, a copy or duplicate sheet 6 and a copy or triplicate 7, each preferably having a blank form, such as indicated at 8 for receiving inscriptions. It will be understood that the number of these record sheets, as well as the ruling of the blank forms may be varied to adapt the assembly to different classes of business. The record sheets may, for example, be ruled to provide statements for various forms of merchandise.

These record sheets are arranged in superposed manifolding relation with each other, and in interleaved and overlapping relation therewith are the transfer or carbon sheets 9 the number of which is determined by the number of record sheets, two being shown in the illustrative embodiment arranged to transfer the inscriptions to the duplicate and triplicate record sheets.

Both the record sheets and transfer sheets are bound together in superposed aligned manifolding relation into a stub or binding 10, the stub portions of the leaves being bound together in any appropriate manner, preferably by means of an adhesive or paste 11 arranged in lines or in other appropriate manner on the faces of these overlapping stub portions. As shown, only the undersurfaces of the transfer sheets 9 are carbonized as indicated at 12, the top faces thereof preferably being free of transfer material. This transfer material may, however, be omitted at the overlapping stub portion as indicated at 13 so as to facilitate the sticking of the adhesive.

Each of the record sheets 5, 6 and 7 is provided with the transverse weakened lines such as the perforated lines 14 extending transversely adjacent to the stub 10. These perforated lines facilitate separation of the record sheets from the stub in a manner more fully described below. The carbon sheets 9 are preferably unprovided with weakened severance lines adjacent to the stub 10 and may be relatively strong along the lines thereof corresponding to the weakened lines 14 so as to facilitate selective detachment and sepa-

ration of the record sheets from the stub and from the transfer sheets. In other words the arrangement of the severance lines in the sheets is selective, only certain of the sheets being thus provided with the severance lines while others are not so provided, whereby selective severance of the sheets may be readily effected. Although this differential attaching strength of the record sheets and transfer sheets to the stub is advantageous, it will be clear that important features of the invention would be maintained even though the transfer sheets were provided with transverse weakened lines corresponding to the perforated lines 14 of the record sheets.

It is desirable that the leaves of the unitary assembly be provided with a marginal selective detaching formation at a point of the assembly remote from the binding 10 whereby the record leaves or sheets may be selectively detached along the weakened severance lines 14 thereof from the binding, without at the same time detaching the transfer leaves or sheets. For this purpose, as shown in the illustrative embodiment, the outer or free ends of the record sheets 5, 6 and 7 are provided with overlapping portions forming detaching tabs 15 extending beyond the adjacent free end edges 16 of the transfer sheets 9. These overlapping detaching tabs may be formed in different manners and, in this embodiment, are formed by having the free ends of the record leaves throughout their full width extend beyond the adjacent ends of the transfer sheets whereby the overlapping tabs 15 extend entirely across the manifolding assembly. In other words, marginal parts of the record leaves are offset with reference to the adjacent marginal parts of the transfer leaves. By virtue of this arrangement it will be observed that the overlapping tabs may be grasped or gripped together near either lateral or longitudinal edge of the assembly, thus facilitating separation as more fully described below.

The blank forms 8 may terminate at their lower or outer ends substantially coincidentally with the adjacent end edges 16 of the transfer sheets. The detaching tab portions 15 of the record sheets may serve to receive any desired printed matter such as instructions to the customer or consignee. Also, appropriate printed matter may appear in the heading above the printed forms.

It will now be observed that the assembly of the record sheets and transfer sheets bound together as described form a self-contained manifolding assembly or record pack which is flexible throughout its extent and substantially equal in thickness at all parts thereof whereat the sheets are in overlapped relation to the combined thickness of these sheets. There is no thick or unflexible stub portion or other parts forming excess thickness which would interfere with the free use of the manifolding assembly or set of record and transfer leaves in typewriting machines or in other forms of writing machines. The assembly may be entered upon a cylindrical platen of a typewriting machine and all parts thereof will conform smoothly to the surface of the platen. Also, the assembly is capable of passing entirely over the platen of a typewriting machine as there are no inflexible or thick or protruding parts to interfere with such passage. Furthermore, it will be noted that all of the record and transfer sheets lie substantially in the plane of the binding stub 10 when the assembly is in flat position, with the blank forms or record receiving spaces of the record sheets in substantially aligned, relatively superposed inscription transfer relation. Because of this arrangement, the record and transfer sheets lie in face to face contact with each other in transfer relation throughout the extent of the record receiving areas and the forms of the different record sheets are at all times in correct registry with each other. Furthermore, it is noted that both the record and transfer sheets of the assembly are of single unfolded lengths each forming but a single leaf so that the assembly lies flat and free from folds in form to be entered into the typewriting or other machine very easily and quickly and without any obstruction to free entry. The transfer surfaces of the transfer sheets are positioned to make transfer inscription upon the forms of the single length record or form sheets and as disclosed, are preferably placed upon but one surface of each transfer sheet, namely the lower surface thereof lying against the respective form sheets.

After the unitary assembly described has been written upon by a writing machine or in any other manner the record sheets can be separated from the carbon sheets and from the stub with very little effort and also very quickly. In order to effect this separation, the protruding detaching tabs may be gripped together near one lateral edge of the assembly while the assembly is held at the other end by means of the binding stub 10. The record sheets may then be severed along the weakened lines 14 by exerting a pull upon the detaching tabs. A quick, sharp jerk upon the sheets will be sufficient to sever the weakened lines 14 and at the same moment the record and transfer sheets may be stripped or separated from each other. Since this detaching pull may be exerted near one lateral edge as mentioned, the severance will be initiated at the corresponding ends of the weakened lines 14 and severance proceeds with a tearing action, thus effecting a clean and easy severance. It will be understood that the weakened lines 14 will be arranged to weaken the record sheets so that they may be easily severed in the manner described. It will not be necessary in all cases to extend the weakened lines entirely to the sheet edges, but they will extend near enough to the opposite edges to start the severance when the pull is exerted on the sheets. It is therefore desirable that the lines extend substantially to the edges although they need not actually intersect the same.

During this severance of the record sheets the transfer sheets will not be disturbed since they are free and ungripped at their outer ends and furthermore since their attachment to the stub as described results in retaining the attachment to the stub while the record sheets are severed. It is therefore a very easy matter to sever the inscribed record strips and separate them entirely from the transfer sheets and from other parts of the assembly.

The inscribed record sheets may then be distributed as desired. The carbon sheets are preferably of a type adapting them for a single manifolding use. After they are once used they may be discarded together with the stub.

As suggested in Fig. 3, the manifolding assembly may be modified slightly by providing a different arrangement for the transfer sheet or sheets. In this view the corresponding parts are designated by the same reference numerals as before with the addition of the index *a*. Transfer sheets 9ª of this form are arranged in overlapping relation with the record sheets as before

preferably terminating at their outer ends remote from the stub 10a short of the adjacent ends of the record sheets for the purpose above described. However, the opposite or stub ends of the transfer sheets are preferably free from attachment to the stub. Also, these stub ends of the transfer sheets may, and preferably do extend and terminate beyond the adjacent severance lines 14a of the record sheets. Also said transfer sheets 9a as shown preferably terminate adjacent to but short of the attaching lines of adhesive 11a. In this manner the ends of the transfer sheets are closely received between the respective contiguous record sheets adjacent to the attachments thereof and are thus yieldingly gripped and frictionally retained in their operative position.

It will now be seen that the record leaves may be detached from the stub along the lines 14a in a manner already described. When thus severed, the transfer sheets 9a may be removed from their interleaved position. In order to facilitate this removal the ends of the transfer sheets which project beyond the severance lines 14a may be gripped by the operator at the time the record sheets are severed, thus withdrawing the transfer sheets at one and the same operation during the severance. Or the record sheets may be first severed as already described, leaving the stub ends of the transfer sheets projecting beyond the ends of the record sheets, whereupon the transfer sheets may be easily removed by grasping these projecting ends.

Certain of the subject matter of this application is disclosed in applicant's prior copending application Serial No. 257,169, filed February 27, 1928, this subject matter being continued in the present application.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

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

1. A unitary manifolding assembly including, in combination, a single set of record sheets, a stub including a binding attachment for said set, and at least one transfer sheet positioned in overlapping, superposed, manifolding relation with said record sheets and terminating adjacent to but short of said binding attachment so as to be enclosed and frictionally held by said record sheets adjacent said binding attachment, and overlapping parts of said record sheets remote from said binding stub being unlapped by the transfer sheet whereby said overlapping parts may be simultaneously gripped together without, at the same time, gripping the transfer sheets.

2. A unitary manifolding assembly including, in combination, a single set of record sheets, a stub including a binding attachment for said set, and at least one transfer sheet positioned in overlapping, superposed, manifolding relation with said record sheets, said record sheets having transverse weakened severance lines adjacent said stub, and spaced forwardly from the stub attachment, overlapping parts of said record sheets remote from said binding stub being unlapped by the transfer sheet whereby said overlapping parts may be simultaneously gripped together without, at the same time, gripping the transfer sheet, and the stub end of the transfer sheet being free from said binding attachment and terminating beyond said severance lines adjacent the binding atttachment.

3. A unitary manifolding assembly pliable throughout its extent and including, in combination, a single set of record sheets, a stub including a binding attachment for said record sheets, said record sheets having transverse weakened severance lines positioned adjacent the stub, and a transfer sheet positioned in overlapping manifolding relation between two adjacent record sheets and terminating adjacent to but short of said binding attachment so as to be enclosed and frictionally held by said record sheets adjacent said binding attachment.

4. A unitary manifolding assembly including, in combination, a single set of record sheets, a stub including a binding attachment for said set, and at least one transfer sheet positioned in overlapping manifolding relation with said record sheets and terminating adjacent to but short of said binding attachment so as to be enclosed and frictionally held adjacent the binding attachment, and said record sheets having transverse severance lines positioned outwardly from the binding attachment beyond the adjacent end of the transfer sheet.

5. A manifolding set consisting of a top original record sheet, one or more copy record sheets beneath the original record sheet in registry therewith, and one or more transfer sheets interleaved with the record sheets in manifolding relation, the record sheets each having a weakened severance line adjacent one marginal edge and extending the full length thereof, such severance lines providing superposed detachable marginal strips, each transfer sheet having a marginal edge portion lying between detachable marginal strips of record sheets and secured thereto, each transfer sheet having a marginal portion at the edge of the set opposite that at which the sheets are secured together offset inwardly from the marginal edges of the record sheets.

6. A unitary manifolding assembly including a free, independent set of manifolding leaves arranged in superposed manifolding relation with each other, at least two of said leaves having record surfaces for the reception of inscriptions, and one or more of said leaves each being carbonized and positioned in transfer relation between the respective aforementioned record surfaces, said carbonized leaf or leaves and said leaves with the record surfaces being the only manifolding leaves in said assembly, the assembly as a whole being flexible and free from excess thickness throughout its extent, adapting it for use in typewriting machines with cylindrical platens and for similar uses, a binding including marginal binding means binding marginal portions of all of said leaves together at a marginal part of the assembly, less than the whole number of said leaves having weakened attachment with the marginal binding means whereby they may be readily detached, and the remaining leaf or leaves having unweakened attachment with the binding means, said leaves having a marginal selective detaching formation remote from the marginal binding means whereby the leaf or leaves with weakened attachment to the binding means may be gripped for selective detachment thereof from the binding means.

7. A unitary manifolding assembly including a free, independent set of manifolding leaves arranged in superposed manifolding relation with

each other, at least two of said leaves having record surfaces for the reception of inscriptions, and one or more of said leaves each being carbonized and positioned in transfer relation between the respective aforementioned record surfaces, said carbonized leaf or leaves and said leaves with the record surfaces being the only manifolding leaves in said assembly, the assembly as a whole being flexible and free from excess thickness throughout its extent, adapting it for use in typewriting machines with cylindrical platens and for similar uses, a binding including marginal binding means binding marginal portions of all of said leaves together at a marginal part of the assembly, less than the whole number of said leaves each having a weakened severance line with opposite ends thereof extending substantially to opposite leaf edge portions so as to weaken the respective leaves to severance substantially thereacross and to provide a readily detachable marginal leaf section at which said binding means is located, and the remaining leaf or leaves being correspondingly unprovided with any weakened line but having a marginal portion or portions overlapping said detachable leaf sections and attached in said binding, whereby the leaf or leaves with the detachable section may be selectively detached from the binding, said leaves having a marginal selective detaching formation remote from the marginal binding means whereby the leaf or leaves with the detachable sections may be gripped for selective detachment thereof from the binding.

8. A unitary manifolding assembly including a free, independent set of manifolding leaves arranged in superposed manifolding relation with each other, at least two of said leaves having record surfaces with blank forms for the reception of inscriptions, and one or more of said leaves each being carbonized and positioned in transfer relation between the respective aforementioned record surfaces, said carbonized leaf or leaves and said leaves with the record surfaces being the only manifolding leaves in said assembly, the assembly as a whole being flexible and free from excess thickness throughout its extent, adapting it for use in typewriting machines with cylindrical platens and for similar uses, a binding including marginal binding means binding marginal portions of all of said leaves together at a marginal part of the assembly, said leaves with the record surfaces having weakened severance lines extending substantially to opposite leaf-edge portions along a marginal part thereof so as to provide readily detachable marginal leaf sections at which said binding means is located, and said carbonized leaf or leaves each being correspondingly unprovided with a weakened line but having a marginal portion positioned between said detachable marginal leaf sections and secured in said binding, so as to provide for selective detachment of the record leaves from the binding means, said leaves with the record surfaces and said carbonized leaf or leaves normally lying substantially in the same plane as said binding means when the assembly is in flat unfolded condition, and being in face to face contact for substantially the extent of said record surfaces and with the blank forms of the record surfaces in aligned transfer relation with each other, said leaves having a marginal selective detaching formation remote from said marginal binding means whereby the leaves with the record surfaces may be gripped for selective detachment thereof from the binding.

HARRY STEVENS.