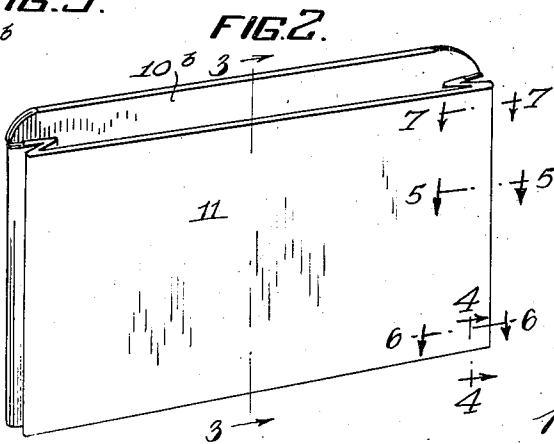
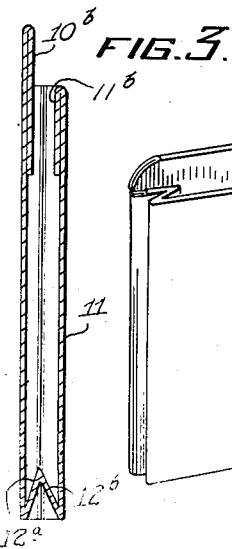
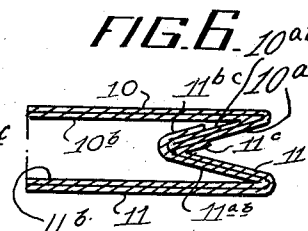
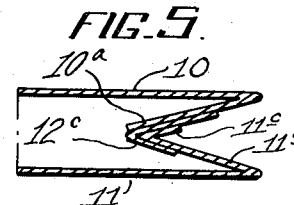
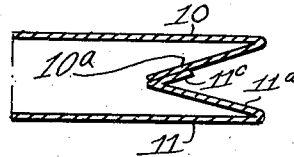
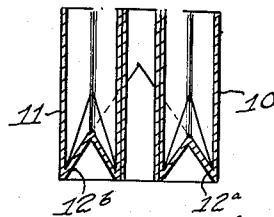
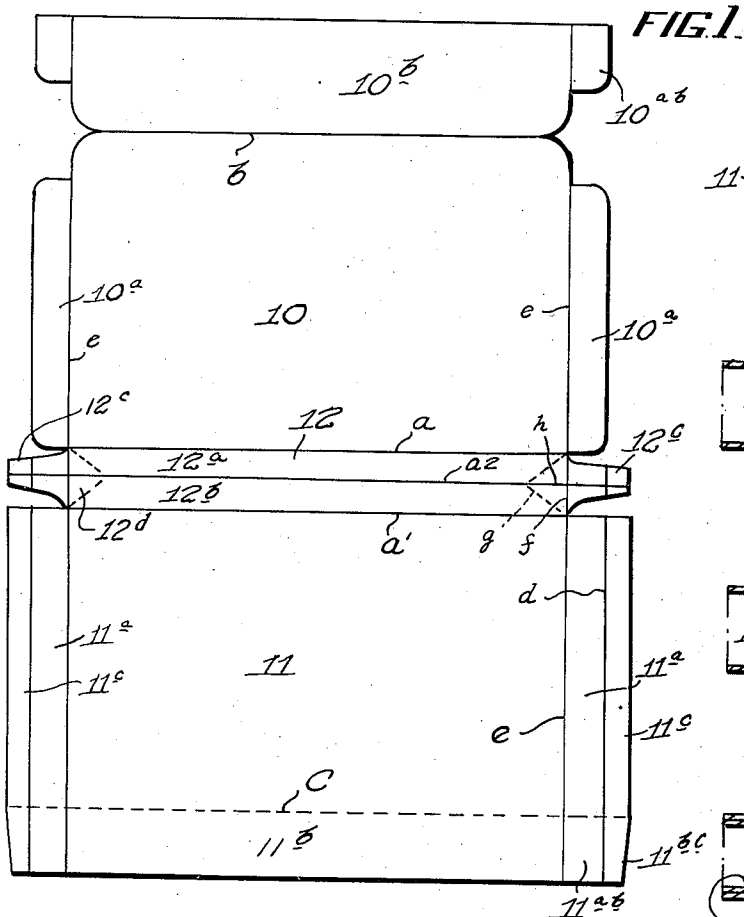


Feb. 8, 1949.

M. J. SHAFFER
 BELLOWS TYPE ENVELOPE HAVING ALL
 EDGES OF MOUTH REINFORCED
 Filed March 8, 1946

2,460,909



Inventor
 M. J. Shaffer
 By
 Bryant & Lowmy
 Attys.

UNITED STATES PATENT OFFICE

2,460,909

BELLOWS TYPE ENVELOPE HAVING ALL
EDGES OF MOUTH REINFORCED

Morton J. Shaffer, New York, N. Y.

Application March 8, 1946, Serial No. 652,940

1. Claim. (Cl. 229—68)

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This invention relates to improvements in envelopes, and has particular relation to envelopes of the expansible and collapsible type, especially pseudo envelopes of large size adapted for use as document or other filing containers.

Envelopes or containers for use in filing cabinets, especially those of large dimensions, are subject to difficult conditions of service. Since they serve for the accumulation of documents, etc., pertaining to individual persons or subjects, the envelope needs to be of the expanding type if the documents, etc., are to be properly preserved; hence, a really serviceable envelope for the purpose needs to be of the "bellows fold" type—capable of expanding uniformly throughout the height and width of the envelope without materially changing its overall dimensions.

While some forms of envelopes for the purpose employ flaps, thus protecting the marginal edge or edges of the open side—the flap extends over the open side and is itself positioned at such side of the envelope; but the use of a flap on envelopes of the expandible type is difficult since the flap must also be capable of expanding, a condition which is not only difficult to produce, but if absent, provides for rapid wear since the constant change in the line of fold provides rapid deterioration. Because of these conditions, flaps are preferably omitted, and reliance placed on the cabinet to protect the contents; but the omission of the flap leaves the marginal edges exposed and, unless re-inforced, vulnerable to the effects of continued handling.

Another of the difficulties in the use of such envelopes is the fact that as the accumulations continue, the file increases in thickness, and while the bellows fold may compensate in this respect, such increase also increases the distance between the outer plies of the envelope at the sides and bottom; the increase at the sides does not materially affect the conditions, but the increase in distance at the bottom provides increased spacing of the bottom supporting edges while the intervening bellows fold remains out of contact with the bottom of the cabinet drawer, thus tending to produce conditions of instability of the file after a considerable accumulation of contents is had since the weight of the file and its content is applied on such spaced edges; with the bellows fold extending into both side and bottom edges, the spaced edges tend to be independent, and thus permit the instability conditions to develop.

Another of the conditions present is that of developing an envelope to meet and overcome

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these conditions, with an arrangement such that it can be produced from a single blank, especially where the blank is to be fashioned into the product simply by folding and adhesively connecting certain of its parts. An envelope for this service to be of long-life characteristic and possess the stability that is a desired essential must be formed of strong heavy material, a condition which, in presence of the bellows-fold characteristic, places a severe strain upon the fold lines where the action stimulates to some extent a hinging action; to obtain the necessary reinforcing action without the use of separate re-inforcing blanks or material presents a somewhat difficult problem in first developing the way of solving the problems previously referred to and to then fashion a blank which can be folded in simple manner and adhesively secured in its product form and wherein the blank, when so folded and secured, will produce such solution way.

The present invention has for its object the production of an envelope of this type, produced from a blank by folding and adhesively-securing certain of its parts, and which, when completed, will provide a solution to the problems indicated, and provide an envelope of comparatively low-cost characteristic, having the expansible and collapsible condition, and which is capable of withstanding rough service usage without materially affecting its serviceability.

To these and other ends, the nature of which will be more clearly understood as the invention is hereinafter more fully disclosed, said invention consists in the improved construction and combination of parts hereinafter more fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claim.

In the accompanying drawings, in which similar reference characters indicate similar parts in each of the views,

Figure 1 is a plan view of one form of blank employed in the present invention.

Figure 2 is a perspective view of an envelope resulting from the folding of the blank of Figure 1 and the adhesive connection of certain of its parts.

Figure 3 is a vertical sectional view of the envelope taken on line 3—3 of Figure 2.

Figures 4, 5, 6 and 7, are detail sectional views taken on lines 4—4, 5—5, 6—6 and 7—7, respectively, of Figure 2.

For the purpose of identifying the various walls of the envelope in the following description, it is assumed that the envelope is being utilized

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for filing service, in which, following the usual practice, the wall carrying the identifying indicia is the rear wall of the envelope which carries a tab or the like upon which the indicia is exposed above the front of the envelope, the content of the envelope being located between the front and rear walls with the identifying indicia facing the front of the drawer of the filing cabinet.

The blank utilized in the production of the envelope is shown in Figure 1, in which the rear wall is shown at 10, with the front wall indicated at 11. Between these walls is the bottom 12, *a* indicating the folding line between the rear wall 10 and bottom 12, *a'* indicating the folding line between the front wall 11 and the bottom 12, while *a2* indicates an intermediate folding line between lines *a* and *a'*, thus dividing the bottom 12 into two zones 12*a* and 12*b* which—with the front and rear walls 11 and 10—provide the bellows fold formation for the bottom of the envelope, the zones 12*a* and 12*b* being juxtaposed, respectively, to walls 10 and 11 in producing the bellows fold and with the envelope collapsed.

The wall 10 has an extension 10*a* at each of its opposite sides, the extension being of a width approaching that of zone 12*a*, the extension having its direction of length less than the height of wall 10, with the extension extending substantially from the folding line *a* to a point spaced from the opposite end of the height of the wall—the height being the distance between line *a* and a line *b* which is parallel to and opposite line *a*; the upper zone of wall 10 is designed as the indicia-carrying portion of the envelope, the length of extension 10*a* presenting the depth of the content-receiving portion of the envelope; the portion of wall 10 above the upper end of extension 10 presents the tab or indicia-receiving zone, which is preferably formed with rounded corners to provide a finished appearance.

Since such indicia-bearing zone is to be strengthened by reinforcing, the wall carries, beyond line *b* a top extension which is substantially a reversed replica of the adjacent portion of wall 10 and its extension 10*a*, extension 10*b* being folded forwardly on line *b* into overlying relation to the upper portion of wall 10 and adhesively secured thereto, thus providing a strengthened reinforced indicia-bearing or tab zone, the thickness in this zone representing two plies of the sheet material of the blank, which two-ply thickness also extends into the upper zone of extensions 10*a*—actually the two-ply thickness reaches materially below the tab zone, the distance being represented by the length of extensions 10*ab* of extension 10*b*, with the two-ply thickness also provided by the extensions 10*ab* secured to the upper portion of extensions 10*a*.

Wall 11, which lacks the tab zone, is, however, also provided with a reinforcing extension 11*b*, foldable inwardly on to wall 11 on line *c* and adhesively secured to the wall. Wall 11 also carries extensions 11*a* at opposite sides—corresponding to extensions 10*a*, these having a length equal to the height of wall 11 and of its extension 11*b*; in addition, wall 11 carries beyond extension 11*a*, an additional extension 11*c*, the two being distinguished by folding line *d*; the portion of extension 11*c* beyond folding line *c* may have its outer edge cut away as shown.

In the envelope assemblage, extensions 10*a* and 11*a* form walls of the side bellows fold—similar to zones 12*a* and 12*b*; however, since the extensions are not integral, as are zones 12*a* and 12*b*,

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they must be connected, a function which is provided by extensions 11*c* which are folded on line *d* into overlying relation to extensions 10*a* to which they are adhesively secured, line *d* thus becoming the mid-position folding line of the side bellows fold. After the side bellows fold section is thus formed, the reinforcing extension 11*b* is then folded inwardly on to wall 11 and adhesively secured thereto, the portions of extension 11*b* corresponding to extensions 11*a* and 11*c*—indicated at 11*ab* and 11*bc*—being adhesively secured to the inner face of extension 11*a* and the exposed face of inturned reinforcing portion 10*ab*.

By this arrangement, the entire upper marginal zone—including the tab zone—of the envelope is reinforced, portions of the side bellows fold portion of such margin being of two-ply thickness, while other portions are of three-ply thickness; the folding line *d* portion of the marginal zone is at least of two-ply thickness within this zone. Hence, the entire upper marginal zone of the envelope is reinforced, with the reinforcing members adhesively secured; not only does this strengthen the envelope, but the adhesive securing of the marginal zone prevents the formation of pockets into which papers could extend and be difficult to remove.

The length of the bottom 12 equals that of the front and rear walls. The ends of the bottom, however, carry tab extensions 12*c*, each having a length approximating that of the combined width of extensions 11*a* and 11*c*; the tab extensions may be of equal width with the bottom 12, but are preferably of decreased width with the width symmetrical to folding line *a2* which is continued throughout the length of the tabs (the side walls may be inclined to give the tabs a somewhat tapered appearance, as shown). In forming the envelope, these tab extensions 12*c* are folded on the line *e*—which constitutes the folding line of extensions 10*a* and 11*a*—after extension 10*a* has been folded—thus placing the tabs in overlying relation to the lower end of extension 10*a*, to which the tab is adhesively secured to the outer side of the extension, the overlying relation extending to folding line *a2*, the portion of the tab on the opposite side of line *a2* being secured in underlying relation to the inner side of extension 11*a*, and also in underlying relation to extension 11*c* to the extent of the width of the latter. The tab is thus fixedly secured to both the front and rear walls of the envelope with folding line *a2* of the tab underlying folding line *d* at the side of the envelope, the outer face of the tab being adhesively secured to both extensions 11*a* and 11*c*. With the tab having a tapered formation as shown, this assembling just described, leaves a portion of one side of the tab exposed on the outer side of the envelope and a portion of the opposite side of the tab exposed on the inner side of the envelope, with the tab actually positioned between the extensions of the front and rear walls of the envelope. Since line *d* presents the intermediate folding line of the bellows fold of the side of the envelope, the extension of line *a2* present in the tab becomes a portion of this intermediate folding line of such bellows fold.

The assemblage thus described completes the envelope formation with one exception—the bellows fold for the bottom 12. Thus far, the assemblage provides the folding of the blank and the securing of the side seam-like formation together with the side bellows fold. The latter presents a number of characteristics as indicated more particularly in Figures 4 to 7, inclusive. For

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instance, as indicated in Figure 5, the intermediate portion of the side bellows fold is mostly of single ply formation—formed from the extensions 10a and 11a, but the extension 11c of the latter extends across intermediate folding line d into overlapping relation to extension 10a; since the latter does not cross folding line d the latter is of single ply formation while the overlap provided by extension 11c—which is the securing extension—provides a double-ply formation. Hence, the bellows fold is not only strong but has the essential flexibility needed for such service.

As indicated in Figure 7, the arrangement referred to continues to the top of the envelope with certain additions which are now referred to: Since extensions 10b and 11b are infolded on to their respective walls, as indicated in Figure 3, the upper marginal zones of the front and rear walls are of two-ply formation due to the reinforcing provided by extensions 10b and 11b. But the top marginal zones of the side bellows fold are also reinforced by the tab extensions 10ab, 11ab and 11bc. Tab 10ab, being infolded, underlies extension 10a, while tab 11ab, also infolded, underlies extension 11a to the intermediate folding line d, while tab 11bc, also infolded with tab 11ab, underlies tab 10ab. As a result, all parts of the top marginal portion of the side bellows fold are of at least two-ply formation—this including the intermediate folding line, the seam zone, however, is of four-ply formation—made up of tab 10ab infolded on to extension 10a, the member 11c with tab 11bc then infolded on to positioned tab 10ab, thus firmly uniting the sides of the envelope within the bellows fold and at the same time providing a marginal reinforce—also secured—to the top of such fold, but without unduly increasing the thickness of the intermediate folding line d in the marginal zone, the latter remaining of two-ply formation.

As with the top marginal zone of the envelope, the lower end zone of the side bellows fold includes the basic seam arrangement shown in Figure 6; however, like the top marginal zone, the lower zone carries additional features which vary to some extent the arrangement of Figure 5, the variations being brought about by the fact that in this zone the bottom 12 integrally connects the front and rear walls, thus closing the bottom zone—in contrast with the open top, together with the presence of tabs 12c. Tabs 12c are bent upwardly on line f—which corresponds in position with folding line e of extensions 10a and 11a—this upward bending of tabs 12c being provided before the adhesive connection of the lower zones of extensions 10a and 11c, the tab 12c extending between the latter, so that the tab overlies extension 10a—to which it is adhesively secured—and underlies extensions 11a and 11c to which the opposite face of the tab is secured.

The tapered characteristics of tab 12c show the tab 12c as not extending the complete distance to folding line e, leaving the folding line e of the assembly as of single ply thickness—as is the case throughout the vertical length of the side bellows fold, excepting the top marginal zone where the reinforcing extensions 10b and 11b extend across line e and thus provide a two-ply thickness to line e within the top marginal zone. As heretofore pointed out, a portion of tab 12c is exposed on the inner side of the side bellows fold, and a portion of the opposite side of the tab is exposed on the outer side of the side bellows fold, these exposed portions lying on opposite

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sides of folding line a2 as extended into the tab. As a result, the intermediate folding line of the side bellows fold—corresponding to line d—is of two-ply formation in this lower zone as well as in the top marginal zone, with the intermediate portion of single ply formation.

The arrangement of the lower zone of the side bellows fold thus far described produces a particular formation at the bottom of this fold—a formation that is one of the important features of the invention. As will be seen from Figure 1, the lower edge of extension 10a and the upper edge of extension 11a extend practically to folding lines a and a' of the bottom; since lines a and a' present the bottoms of the two walls 10 and 11 which contact the support—the bottom of the filing cabinet drawer, for instance—the fact that these ends of extensions 10a and 11a reach to these lines as well, presents a structure in which the vertical length of the side bellows fold equals the vertical length of the front wall 11—in other words, the side bellows fold extends the complete depth of the front wall of the envelope. And since folding of tabs 12c on line f causes the tab to extend over such extension ends, it is obvious that the lower end of the side bellows fold extends to the plane of the lower ends of walls 10 and 11, thus, in effect, producing a bottom zone of the envelope which not only contacts the support at the front and rear, but also at the ends, with the latter portion in the form of a bellows fold which makes it possible for the envelope to expand and collapse to meet the service conditions without affecting the support-contacting conditions at the ends of the envelope. The advantage of this lies in the fact that regardless of the thickness of the accumulated envelope content the plane of contact of the envelope and support will remain constant, since the front and rear of the envelope in contact with the support on such plane are joined together by the lower end of the side bellows fold also in contact with the support on such plane, thus, in effect, producing a pseudo rectangular bottom to the envelope and in which the distance between the front and rear is variable at will without disturbing these conditions.

Since, as hereinafter explained, the bottom also presents bellows fold characteristics, this arrangement provides for stability of an envelope of this type; it is well known that where bellows folds are employed, there is a tendency to set up instability due to the fact that the bellows fold leaves only opposing edges as supporting bases, with the intervening fold variable to vary the angles of the sides of the bellows fold, so that the bases can move relative to each other on the supporting plane—especially where the accumulated content provides considerable spacing between the front and rear; where the envelope is made up of several similar pockets, the instability is less apparent, since the intervening walls provide base support intermediate the front and rear—but where the envelope is of single pocket type, as shown herein, the instability is apparent from the above explanation. Hence, the connection of front and rear walls on the contact plane by the lower portion of the side bellows fold is of definite advantage in providing the essential stability to the envelope, through producing the effect of a pseudo rectangular support in all positions of the front and rear walls regardless of the distance between these walls produced by expansion or collapsing of the envelope in service. The presence of the structure just described,

however, affects the ability to provide the bottom bellows-fold through simply folding the bottom 12 on lines a , a' and $A2$; the latter course could be employed if the bottom ends of extensions 10a and 11a, together with tab 12c, were formed to omit the support characteristic and wall-connection provided by the side bellows fold produced by the use of the blank of Figure 1. Hence, the bottom bellows fold must be developed in presence of such end supports. This is provided by the use of the two folding lines g and h , these, with line f , providing a triangular formation—indicated as 12d—which is bisected by the portion of line $a2$ which extends through the triangle.

As will be understood, when the bottom and front and rear walls are folded to right angular relation on lines a and a' , the full distance between the front and rear walls 10 and 11 will be provided, at which time the side bellows fold becomes a planar formation in which line d lies in the plane of the sides represented by lines e , e' , with line f representing line e in the bottom zone.

As such arrangement of content pocket is collapsed by developing the side bellows fold—moving folding line d inward relative to the end planar formation—the folding line $a2$ of the bottom will also be moved inward relative to the bottom plane, to begin the collapsing of the bottom. While such movement of line $a2$ is produced throughout the length of bottom 12, that portion of line $a2$ lying between the apices provided by the meeting of folding lines g and h alone is active in forming the major intermediate folding line of the bottom bellows fold, due to the fact that line f of the triangle does not change relative to the bottom plane—shifting in such plane into the side bellows fold formation—a condition which makes it necessary to concurrently develop the two folds g and h ; this action, in effect, bisects the triangle 12d on line $a2$ to produce two smaller angles folded in opposite directions, with line $a2$ within the triangle becoming angular to the main portion of line $a2$, since the end of the line still remains in such bottom plane while the apex end moves with the remainder of the line, thus producing the angular relation, the latter, however, presenting a greater angularity through the fact that the side bellows fold is being concurrently developed, with line d —together with the center of line f —also moving inward. And since the sides of the triangle represented by lines g and h remain in the respective planes of portions 12a and 12b of the bottom, while line $a2$ within the triangle develops angularly, there is developed a variable space relationship between the inner face of the side bellows fold and the faces of the two smaller angles of the triangle; this space is maximum when the bottom and sides are fully expanded, and gradually decreases as the envelope is gradually collapsed, until it practically disappears when the envelope is totally collapsed, at which time the intermediate folding lines of the sides and bottom bellows folds, substantially meet interiorly of the envelope, but with the lower end zone of the side bellows fold exposed below the walls of the bottom bellows fold and extending to the plane of the bottoms of the front and rear walls.

As a result the development of the corner zones at the bottom of the envelope presents a number of ply characteristics, depending somewhat upon whether the envelope is fully expanded, partially

collapsed, or wholly collapsed. Basically, lines a , a' and $a2$ of the bottom, independently of zone 12d, present single ply conditions, as to lines e of the side bellows fold—line d of the latter also has this characteristic when the envelope is fully expanded; when partially or wholly collapsed, line d within the corner zone becomes of two-ply formation, due to the fact that line $a2$ of zone 12d is folded toward and into contact with line d (when fully collapsed) to form the lower zone of the side bellows fold which forms an end of the pseudo rectangle of the bottom—this dual ply formation is not a secured condition but provided by facial contact. Hence, in the partial or wholly collapsed condition, the lower zones of extensions 10a and 11a, not only have the secured conditions referred to above and indicated in Figure 6, but additionally have the ply formation of the latter increased by the approaching and facial contact of the two portions of zone 12d, so that this zone of the side bellows fold is made especially stable and not only provides a stable foot characteristic for the ends of the bottom, but also tends to preserve the definite pseudo rectangular formation, since this zone not only prevents the bottom of the front and rear walls from moving out of the seating plane of the envelope, but also prevents lateral movement of these walls relative to each other. These advantages are particularly valuable when the envelope is fully collapsed, at which time the overall distance dimension of the side bellows fold in the direction of front to rear is at its minimum—at such time, the parts pass into contact relationship to form a pseudo solid foot characteristic; as the envelope expands from such completely collapsed condition, the pseudo solidity is replaced by the skeleton formation provided by the opening out of the side bellows fold until the latter is made inactive as the envelope reaches its fully expanded condition.

Certain advantages result from the specific arrangement thus described, an important one of which flows from the fact that envelopes of this type capable of long and efficient service conditions, must be made from heavy paper stock capable of folding without cracking at the line of fold; hence, the stock is of thick gauge and calendered highly. While it is possible to reinforce the lines of fold by the use of separate material of a thinner type, such as fabric, such addition, while adding strength, detracts from the appearance; where, as in the present invention, the envelope is produced wholly from an integral blank, the conditions referred to are especially onerous, since the front and rear sides must be connected by the use of side flaps which must be adhesively secured together, in order to produce the ends of the envelope. The difficulty arises through the fact that since opposing flap faces are securely adhered together by a hardened adhesive, any strains placed on the secured faces can weaken the adherent connection and thus make the envelope of short life characteristic. And, due to the fact that the side bellows-folds must be foldable, and are formed by the use of tabs thus secured together, renders this portion especially vulnerable.

The difficulty arises more particularly with the movable line of fold—the folding line which moves toward and from the plane of the fixedly-positioned lines of fold presented by the connection of the end tabs with the sides of the envelope, during the expansion and collapsing of the envelope. The difficulty can be understood from

the fact that in the fully expanded position the connected flaps practically extend in such plane, while the flaps, during envelope collapsing, extend angular to such plane, with the median line of fold—the movable line—forming the apex of the angular relationship. If, in the expanded position, the inner face of the end presents a smooth connection between the flaps or tabs, the movement of the movable line of fold inward has the effect of forcing the apical zone of the inner plies of a multi-ply line of fold, to tend to require a greater amount of material to compensate for the thicknesses of the material of the underlying plies, with the difficulty increasing as the movable line moves inward; under single-ply conditions the difficulty is not present, but where two or more plies are secured together, the difficulty increases materially as the number of plies increase. As will be understood, the connection of the tabs does not contemplate any variation in the length of the apical zone, and hence, under multi-ply line of fold conditions, the actual effect is to place a strain on the adherent connection between tabs through the attempt of the inner ply to gain the increase in length required at its apical zone—the effect becomes more pronounced as the movable folding line moves inward.

The present invention is designed to mitigate this condition by the specific arrangement of the end tabs and their particular folding relationships. As shown, both the front face 11 and rear face 10 carry end tabs 11a and 10a, respectively, but in fashioning the envelope, these two tabs are not adherently connected together, the adherent connection being between tab 10a and the additional tab section 11c, the inner face of this section being adherently secured to the outer face of tab 10a. Hence, while the two tabs are physically connected through the connection of tab 10a and section 11c, tab 10a does not cross the movable line of fold—indicated at *d*—but extends practically to it. As a result, the end is completely closed, but the movable line of fold *d* is therefore of single-ply formation throughout the major length of such movable line, the conditions changing in the end zones of such line, as now to be referred to. The conditions referred to are shown in the Fig. 5 section, in which the folding line is of single-ply formation.

The bottom zone of the bellows-fold is complicated by the necessity for connecting the tabs with the bottom zone of the envelope represented by the sections 12a, 12b; this function is performed by tabs 12c, this tab being folded upward; since tab 10 is first folded inward, the portion of tab 12c above line *a2* is adhesively secured to the outer face of tab 10a, after which tab 11a is folded up to overlie and be adhesively secured to the outer face of that portion of tab 12c lying below line *a2*, section 11c above tab 12c then being adhesively secured to the outer face of tab 10a; thus, line *a2* of tab 12c will overlie folding line *d* and provide a two-ply folding line in the bottom zone, the length of which is represented by the length of tab 12c—a greater length than the distance which folding line *a2* moves during collapse of the bottom; hence, as shown in Fig. 6, half of tab 12c is exposed on the inside of the envelope, with the other half lying between and secured to both tabs 10a and 11a—tab 10a remains exposed on the inner side of the envelope, although it does not overlie the movable folding line represented by lines *d* and *a2*. While the dual-ply formation is present within this zone,

the strain on the adhesive connections is small since but one additional ply is present due to the fact that tab 10a does not cross the movable folding line, thus leaving a portion of tab 12c exposed, so that the latter tab is connected with tab 11a on the inner face of the latter and therefore in alignment with the apex of the folding line *d*—the opposite portion of tab 12c lies between and is secured to both tabs 10a and section 11c, and is thus firmly anchored against strain.

The upper zone of the movable folding line is also of dual-ply formation on the folding line; although both faces 10 and 11 are marginally reinforced, including this zone of tabs 10a and 11a, flap 11b being infolded to place section 11bc as exposed inside the envelope, and thus as overlying the dual thickness of tab 10a, so that the plies of tab 10a extend between the folding line of tab 11a and that of section 11bc, thus spacing the two folding lines, with the latter carried by tab 11a, the dual tab formation of tab 10a within this zone being anchored by the section 11c on the outer side and by section 11bc on the inner side, thus not only providing a highly efficient reinforcing formation for these marginal zones of faces 10 and 11, but producing the result with the limited dual-ply formation of the movable folding line.

In other words, the completed envelope not only presents the advantages of the end bottom support discussed above, but has its upper mouth zone very efficiently reinforced, and obtains this result from the blank itself and by the use of dual-ply zones for the upper and lower zones of the side movable folding line and a single ply for the remainder of such folding line. As a result, the envelope thus formed is extremely durable in construction and therefore of long-life characteristic, highly efficient in service, and is produced entirely from a blank of simple formation and capable of ready production, doing this and providing an envelope having the advantage of the exposed data-carrying zone. The fact that not only the upper margins of faces 10 and 11 are re-inforced, in connection with the fact that this reinforcing extends into the upper bellows-fold zones, while the lower zone of the movable folding line is also reinforced, with the reinforcing applied in such manner as to limit the ply thickness of such line within these zones is limited to a dual-ply formation, is an important feature which aids in producing these results.

In other words, with the blank formed from heavy calendered paper-board stock, and fashioned as indicated, the resultant envelope is not only practically indestructible, as to material, but the formation is such as to provide for expansion and collapsing within a wide range, and for stability at all variations within the range. This is of especial importance where the envelope is of the large dimensions that may be required within this particular filing service—the dimensions of the rear wall may be 10" x 15", a well-known filing system dimension, with the envelope expandible to approach a 2" thickness; as the envelope expands through the addition of content, stability remains constant—due to the foot characteristic of the side bellows fold, the fold foot being active in all positions up to maximum expansion, while the removal of the bellows fold characteristics at the sides and bottom with maximum expansion through the complete development of the rectangular arrangement at the bottom and sides provides an angular formation

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therebetween which preserves stability at such time. Hence, whether the envelope has little or much content, stability of the envelope is maintained.

As will be understood, the fact that the width of extensions 10a and 11a is similar and that such width is also equal to the width of the sections 12a and 12b, the bellows-fold structures are such that the envelope can be expanded or collapsed uniformly throughout the area of walls 10 and 11. Such uniformity is not forced by the arrangement, since the content accumulation may be mainly of small sized documents, but will generally take place, inasmuch as the bottom fold is directly affected and the trend would be that the side folds would also have somewhat similar movements. The advantage lies in the fact that in the latter case, the documents can be more or less distributed within the pocket and may include large sizes, since the ability to provide for this uniformity in movement throughout the area makes for evenness in the filing of a number of envelopes.

While I have herein disclosed a preferred formation, it is to be understood that changes and modifications thereof may be found desirable or essential in meeting the various exigencies of service, and I desire to be understood as reserving the right to make any and all such changes or modifications as may be found desirable or es-

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sential insofar as the same may fall within the spirit and scope of the invention as expressed in the accompanying claim, when broadly construed.

What is claimed as new is:

In an expansible envelope of the bellows type, a front wall, a rear wall of greater height than the front wall, bellows means connecting the side and bottom edges of said walls, extensions on the top edges of said walls folded inwardly and secured adhesively to the respective walls, said extensions when so folded having their free transverse edges in the same horizontal plane, and tabs integral with the ends of the rear wall extensions adhesively secured to the bellows means connecting the sides of the front and rear walls.

MORTON J. SHAFFER.

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- The following references are of record in the file of this patent:

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