Nov. 27, 1962 D. J. STEIDINGER 3,065,979

CONTINUOUS FORM STATIONERY

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FIG. 1

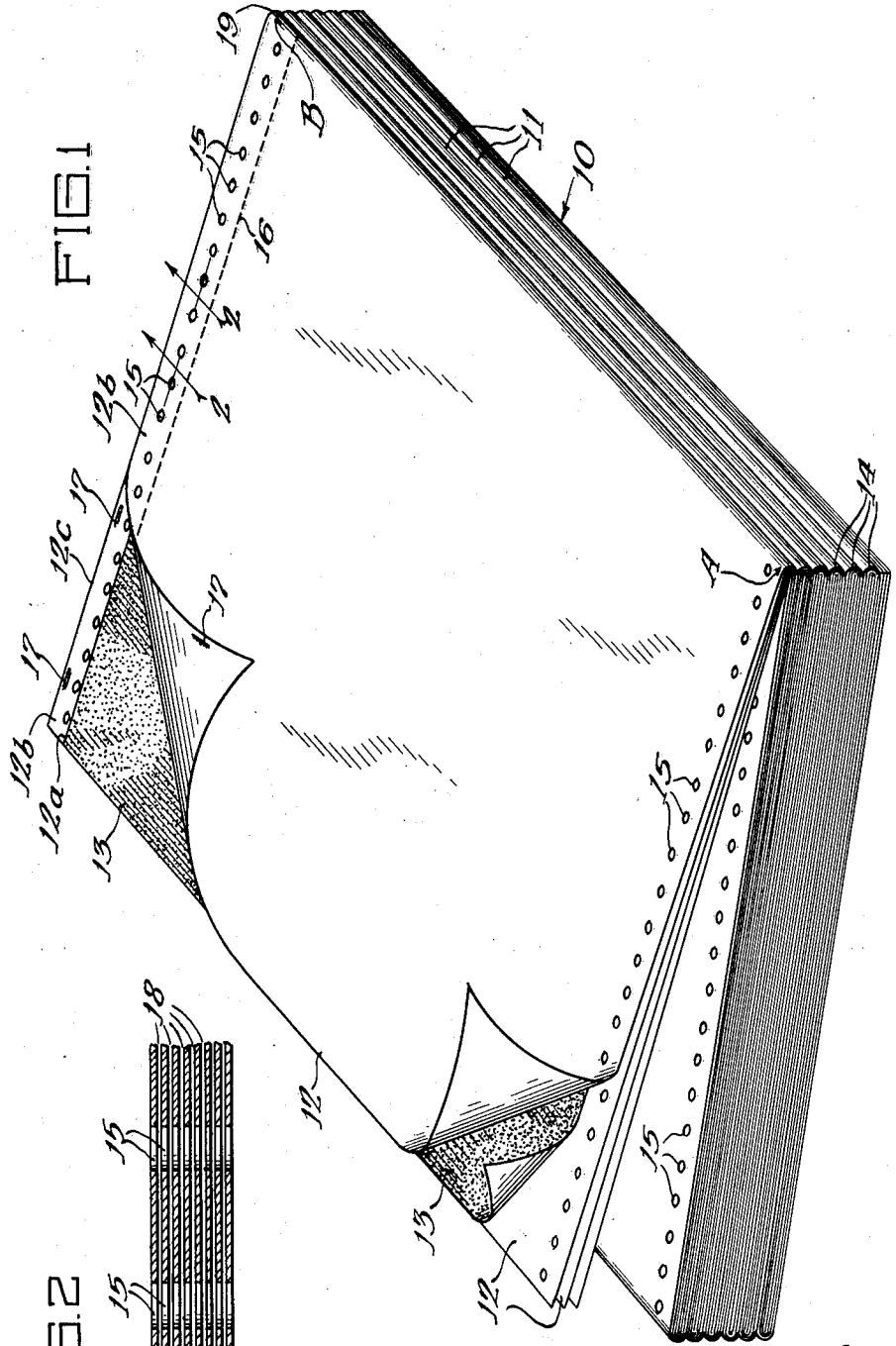

FIG. 2

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FIG. 3

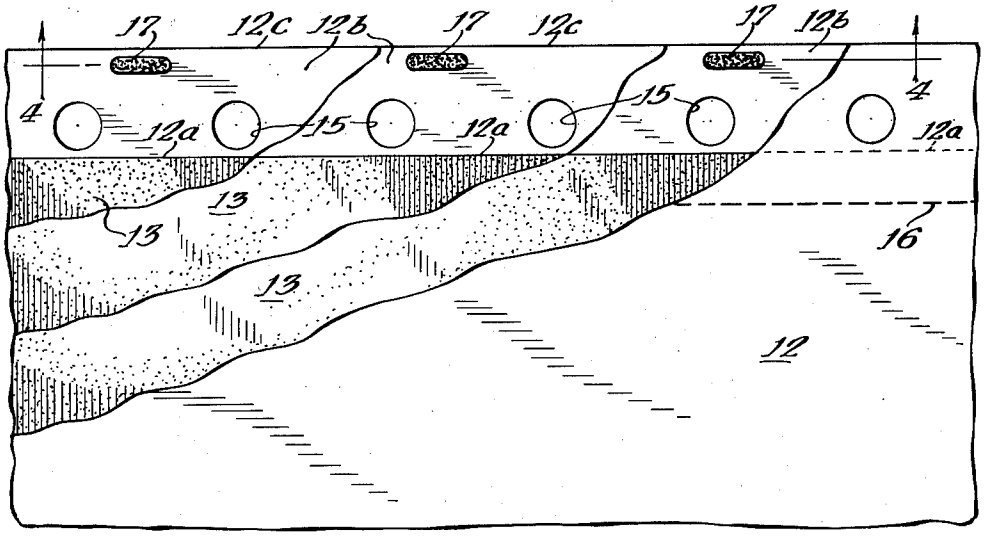


FIG. 4

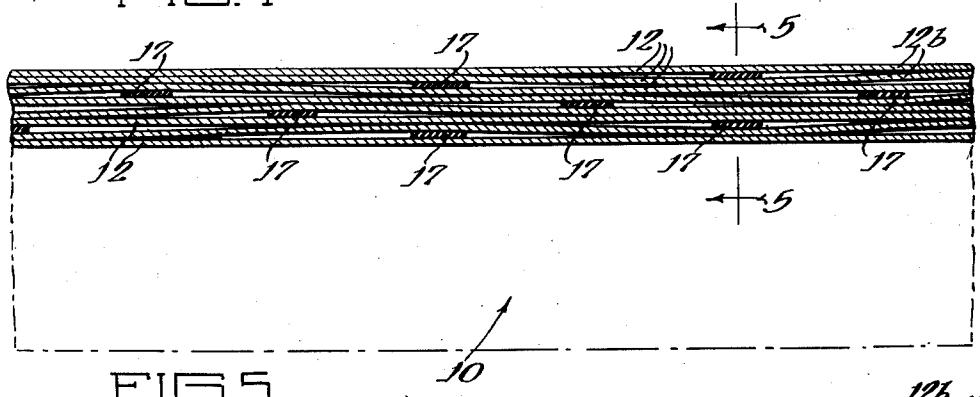
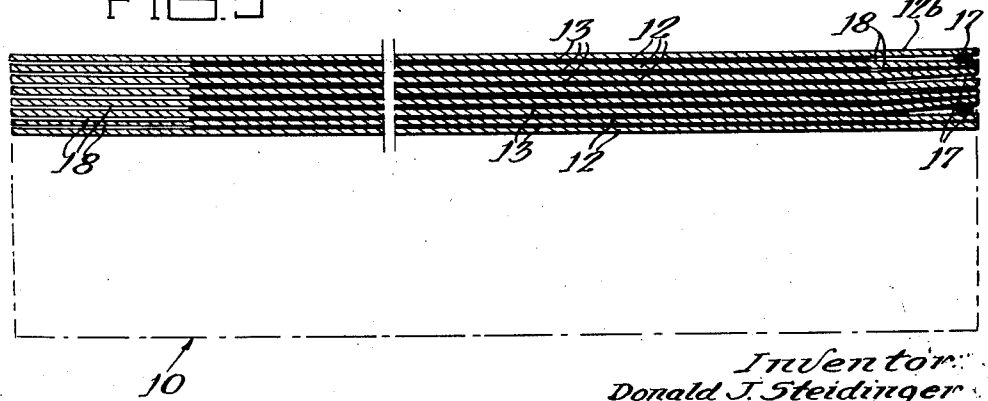


FIG. 5



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3,065,979

CONTINUOUS FORM STATIONERY

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1 Claim. (Cl. 282—11.5)

This invention relates to a manifolding and more particularly to an improved manifolding stationery pack having novel means for attaching the record sheets.

Numerous means have been used in the past in the manufacture of manifolding packs including transfer sheets interleaved with record sheets, for holding the packs together. The various means for fastening the collated sheets or continuous strips of paper together include mechanical elements, such as clips or staples, and adhesives.

In forming such packs including multiple ply strips of stationery, it is extremely desirable to avoid an increase in the thickness of the pack along the margin where the sheets are fastened together. Such thickened portions provide lopsided packs and interfere with feeding the multiple ply stationery pack into machines or onto rolls, thus resulting in the jamming or other interruption of the equipment.

It is, of course, fairly apparent that the use of mechanical elements such as clips or staples will necessarily result in a pack which is thick along the attaching edge. Thus, these are the least desirable fastening means if edge thickness is to be avoided. Nor is this problem easily overcome by the use of adhesive to attach the record sheets together. In order to avoid thickening of the packs due to the presence of adhesive, it is necessary to limit drastically the amount of glue which is used. This may allow the sheets to slip during collation and thus provide improper placement in the pack. Limitation in the amount of glue also may result in incomplete adhesion. In order to overcome these problems, more adhesive must be used and an increase in amount of adhesive again has the result of thickening the edge of the stationery pack.

It is, therefore, an object of this invention to provide a new and improved manifolding stationery pack which overcomes the problems discussed above.

It is a further object of this invention to provide such a manifolding stationery pack without increased marginal thickness.

It is still a further object of this invention to provide such a pack using sufficient glue to provide desired adhesion without slipping and without increasing the marginal thickness of the pack.

It is another object of this invention to provide such a manifolding pack which uses a normally relatively thick quick-drying hot melt glue while still avoiding the increased marginal thickness of the pack.

It is yet another object of this invention to provide a manifolding stationery pack which comprises a plurality of record sheets and a plurality of transfer sheets interleaved therewith and attached thereto, the record sheets being directly attached together at longitudinally spaced areas along a margin thereof, the areas of attachment between a pair of record sheets being staggered with respect to similar areas on adjacent sheets whereby said areas do not overlap and thickening of the pack edge is substantially prevented.

Other objects and advantages of the invention will become apparent from the following description taken together with the accompanying drawings.

Of the drawings:

FIGURE 1 is a perspective view of the manifolding stationery pack of this invention with the corners of the

first record sheet and a corner of the transfer sheet turned back for clarity.

FIGURE 2 is an enlarged sectional view of a form taken along the line 2—2 of FIGURE 1, the form, however, containing additional sheets.

FIGURE 3 is an enlarged top plan view of a portion of the pack with succeeding sheets partially broken away.

FIGURE 4 is a sectional view of a portion of the pack taken along the line 4—4 of FIGURE 3, showing only one form in detail and the remainder of the pack in dotted lines.

FIGURE 5 is a sectional view similar to FIGURE 4 taken along the line 5—5 of FIGURE 3.

Referring now to FIGURE 1, the numeral **10** indicates generally a manifolding stationery pack which is made up by a number of folded forms **11**. Each of the forms includes a plurality of record sheets **12** generally up to about 8 in number, each having a plurality of transfer sheets **13** interleaved therewith. The record sheets and transfer sheets are actually continuous strips which are folded as at **14** into the plurality of forms **11** that makes up the pack **10**.

The margin **12***b* of each of the record sheets **12** is provided with a continuous line of longitudinally spaced sprocket holes **15** which are designed to receive the pins on sprocket wheels (not shown) to feed and guide the forms into the various machines in which they are used. The transfer sheets **13** are attached to the record sheets **12** along a line **12***a* which is spaced inwardly from the edge **12***c* of the record sheet and inwardly of the sprocket holes **15**. This attachment may be achieved by a number of adhesives such as a conventional glue. A line of weakening **16** is provided in the record sheets **12**, spaced inwardly of the line **12***a* of attachment of the transfer sheets. This line of weakening **16** allows the margin **12***b* together with the attached transfer sheets to be removed easily from the manifolding pack so that the forms can be separated and the transfer sheets removed with great facility after the form has been used.

In order to provide a securely attached manifolding pack, the record sheets must also be attached together. As previously pointed out, it is extremely desirable that any thickening of the margin along which this attachment is made, be avoided. As can be clearly seen in FIGURE 1, the manifolding pack of this invention has squared corners A and B of equal heighth. It is desired that this condition be maintained.

It is also desirable, in attaching the record sheets, that a quick-drying type glue be employed to effect the adherence of the record sheets together without slipping or misplacement. Such a glue is commonly called hot melt glue. This glue has a particular property of instantly drying and eliminates any slipping of the sheet with regard to each other during collation. It is a disadvantage of this hot melt type glue, however, that it is relatively stiff and thick when dry. Thus, a continuous line of hot melt glue along the margin **12***b* of the form shown in FIGURE 1 would necessarily distort the thickness of the margin, and provide a lopsided, rather stiff pack.

This problem may be overcome in part by using longitudinally spaced areas of adherence or spots of glue **17** along the margins **12***b* of the record sheet. This measure alone, however, will not eliminate the unnecessary and undesirable thickening of the pack edge. Thus, for example, if the spots of glue **17** were all lined vertically, one with respect to each other, on the respective margins **12***b* of the record sheets **12**, thickening would still result.

In order to avoid this, it is necessary that the spots of glue be staggered with regard to one another on the various record sheets. Referring now more particularly to FIGURES 3 and 4, it can be seen that the spots of glue throughout the marginal portions **12***b* of the form,

are staggered so that not more than two spots of glue or areas of attachment **17** are in vertical alignment in this 8-ply form. This staggering or longitudinal displacement of the spots of glue substantially eliminates thickening of the attaching edge of the form.

The location of the transfer sheet with regard to the record sheets also assists in preventing thickening of the attaching edge. Referring to FIGURE 2, it can be seen that because the transfer sheets **13** are attached to the record sheets **12** along the line **12***a*, spaced inwardly from the edge **12***c*, a plurality of spaces **18** are provided between the record sheet margins **12***b*. These spaces **18** will not accommodate glue between each of the record sheet edges **12***b* but since they are between sheets of paper which can give laterally, they will accommodate without distortion at least two spots of glue in vertical alignment. This give of the paper edges **12***b* and the accommodation of the glue spots is clearly shown in the left hand portion of FIGURE 5 wherein two glue spots **17** in vertical alignment are indicated.

Since the manifolding pack **10** is made of a plurality of folded forms **11**, another problem arises. Thus, the folds **14** tend to remain in the continuous form even when they are flattened out. This remaining folded edge **14** is sometimes referred to as a tent in the continuous form. The tent **14** may often be damaging insofar as feeding the forms into a machine is concerned since it can interfere with the normal feed of the forms. This tenting may also be substantially prevented by providing a spot of glue **17** at the folded edge **19**. This glue spot tends

to flatten out the fold and prevent the tenting. This occurs because the glue spot **17** tends to prevent the angle at the fold **19** between the sheets from becoming too acute thereby allowing the fold to flatten out when the form is opened without a tented or raised portion.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom for some modifications will be obvious to those skilled in the art.

I claim:

A manifolding stationery pack, comprising: a plurality of record sheets and a plurality of transfer sheets interleaved therewith, said transfer sheets being attached to said record sheets along a line spaced inwardly from a margin thereof, said record sheets being directly attached together by glue spots at substantially aligned longitudinally spaced areas along said margin, the glue spots between an adjacent pair of record sheets being staggered with respect to similar glue spots on adjacent sheets whereby no more than two glue spots are in vertical alignment and thickening of the pack edge is substantially prevented.

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