

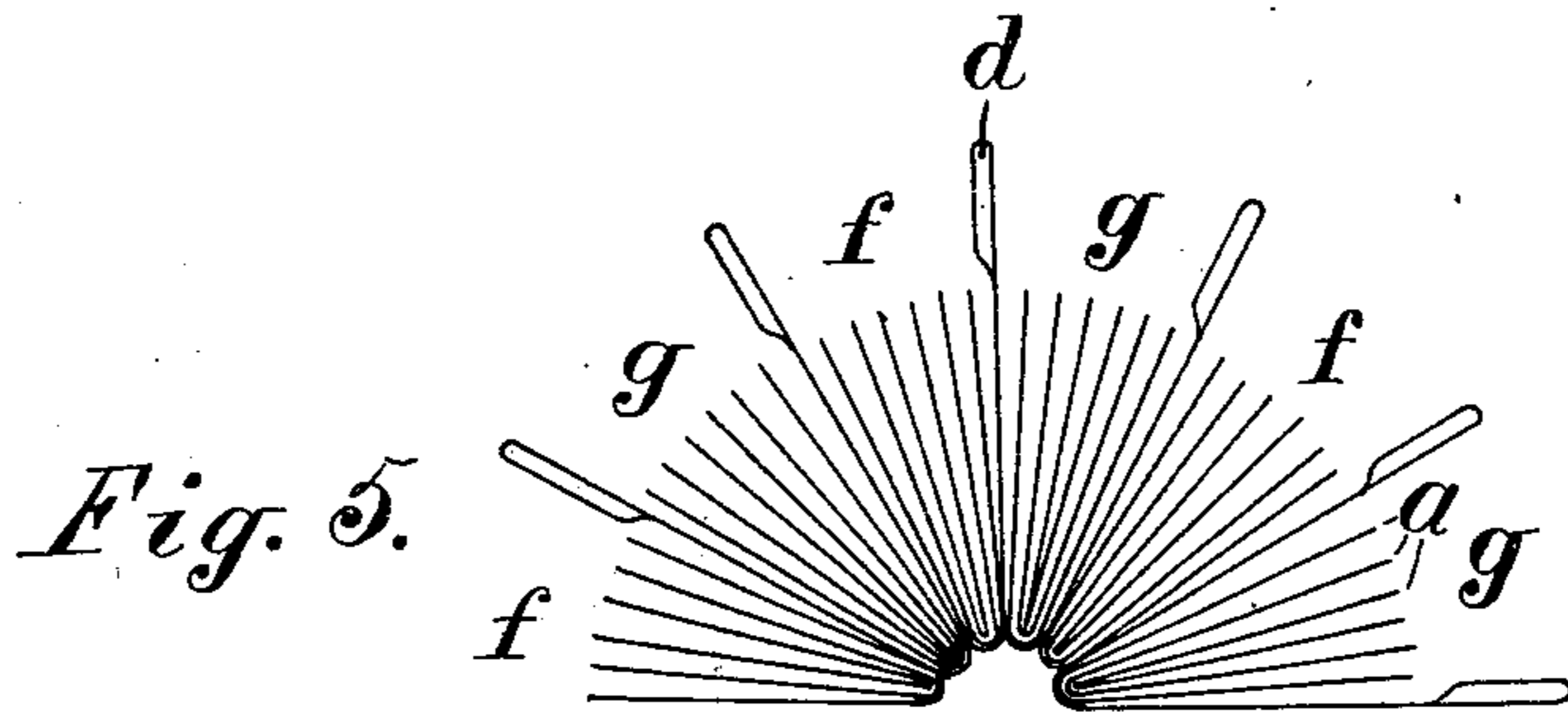
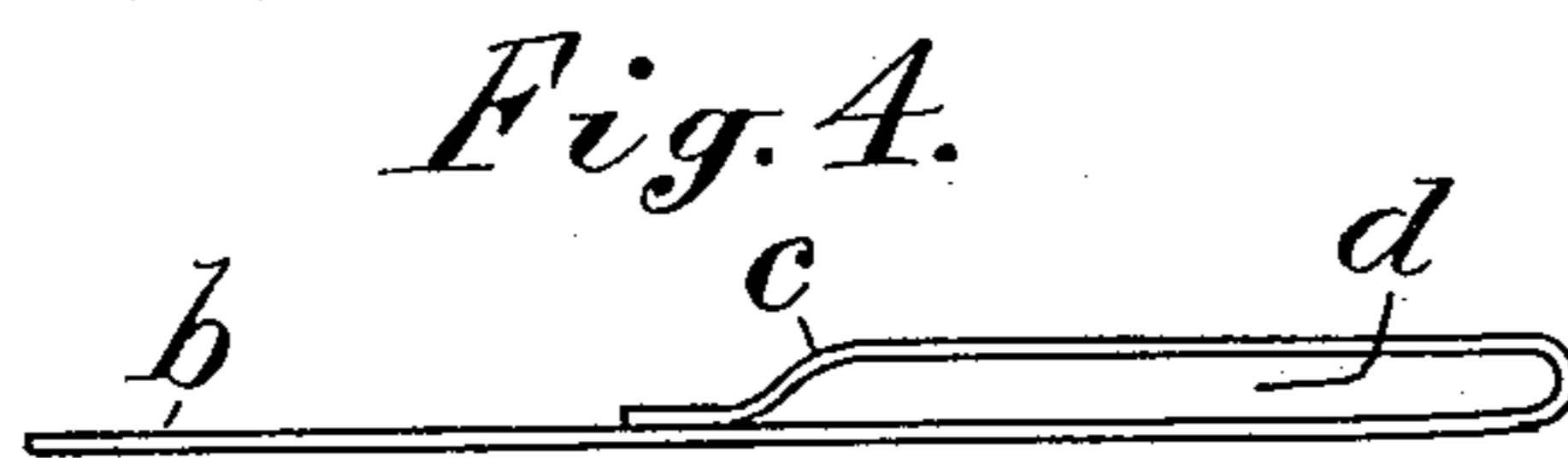
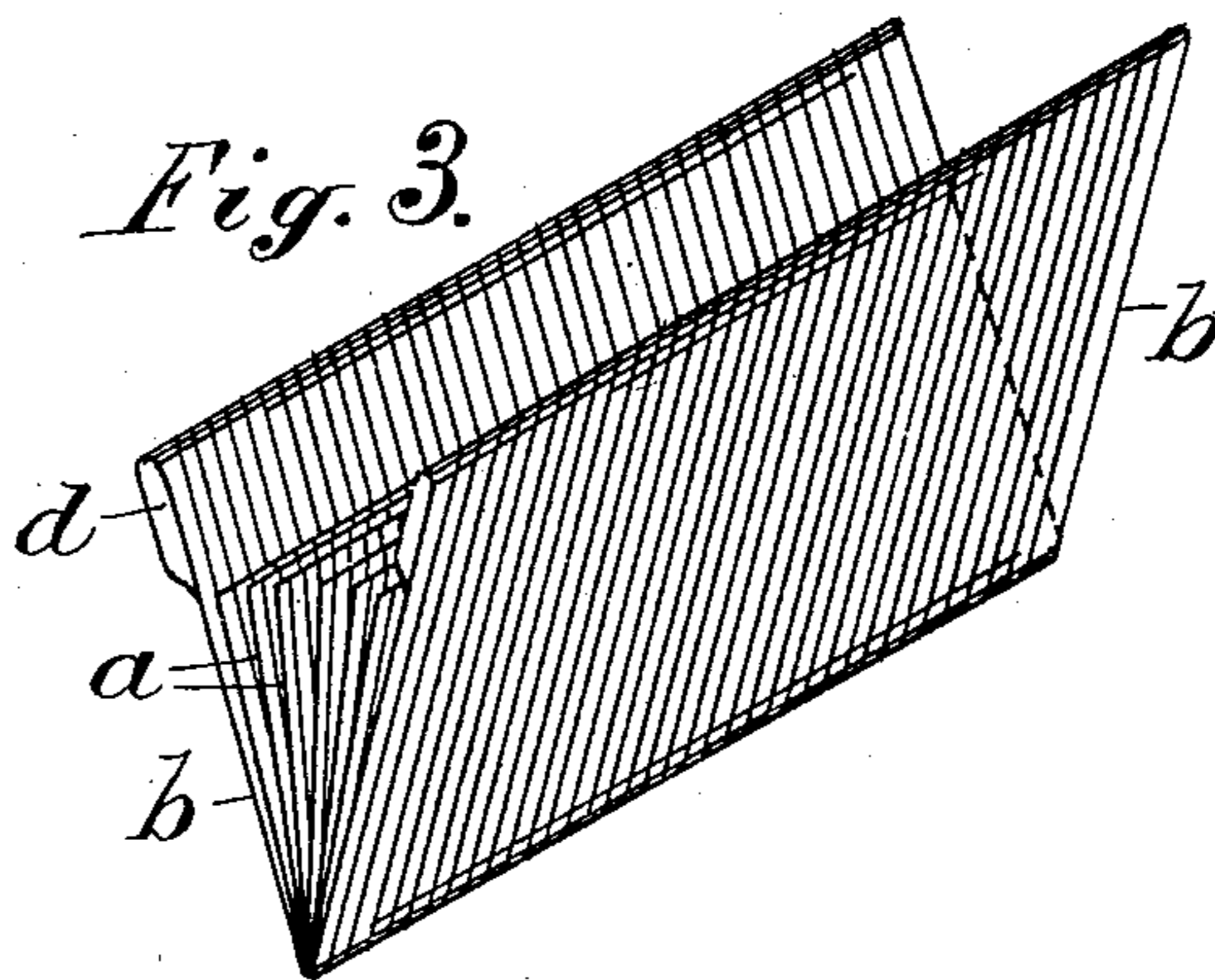
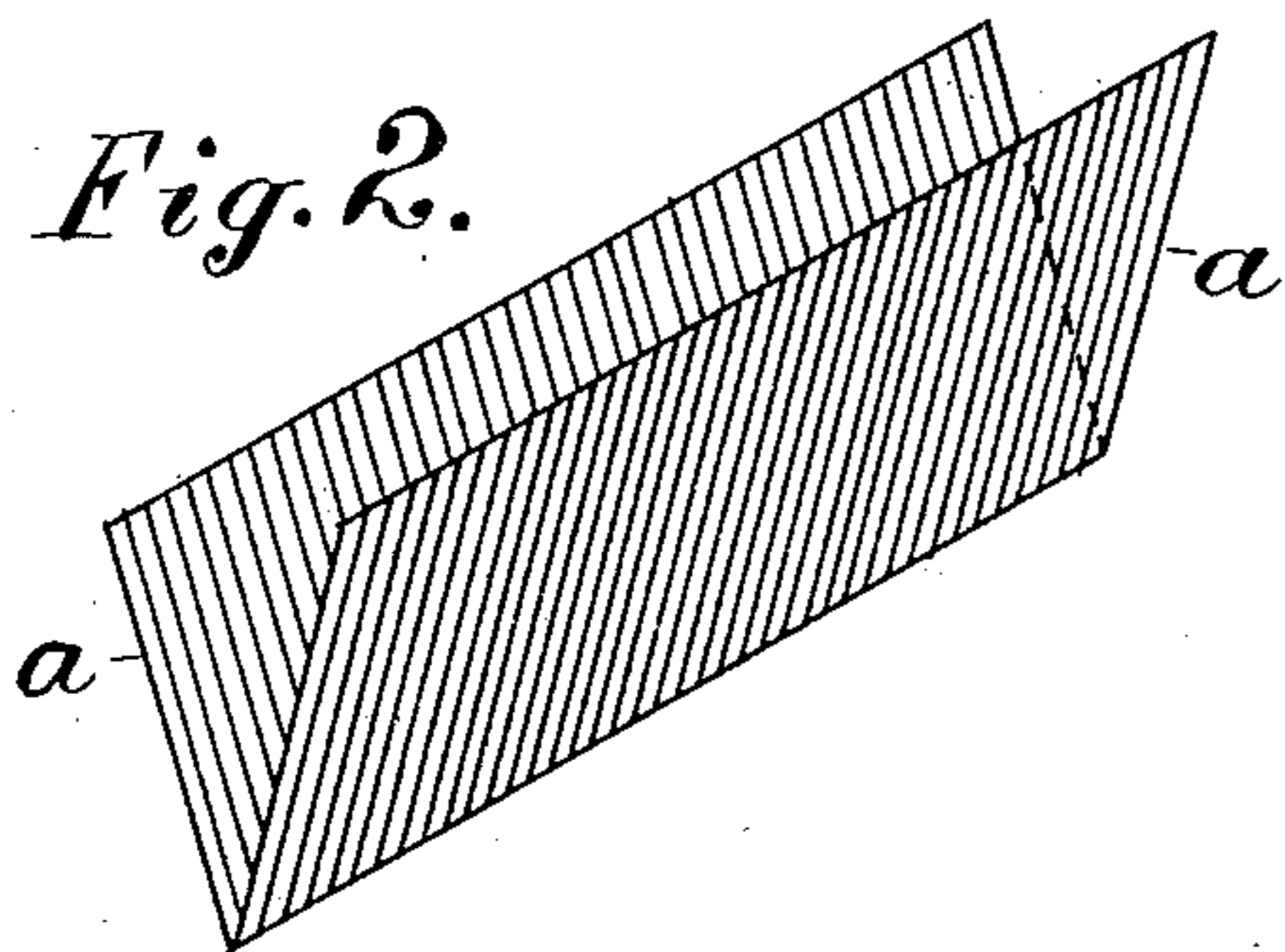
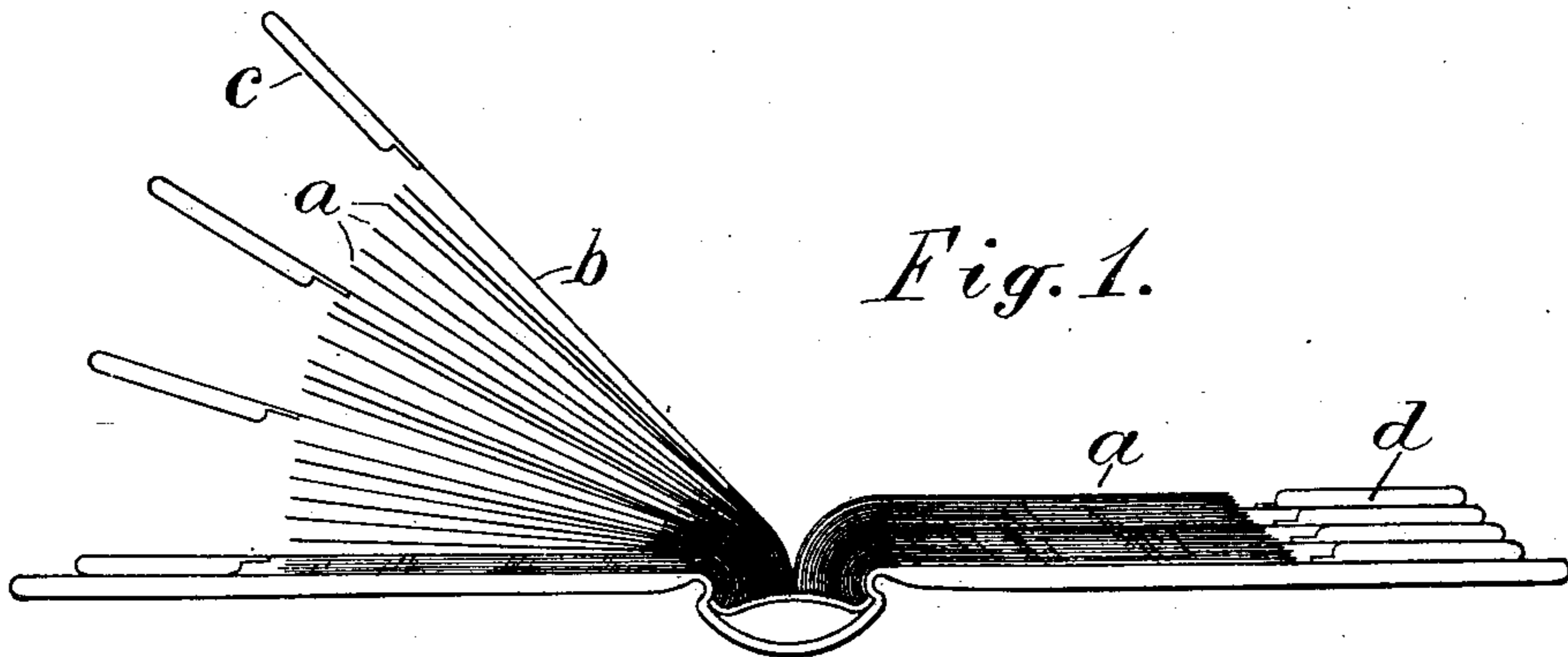
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Patented Apr. 15, 1902.

A. O. & E. R. KITTREDGE.
BOOK SECTION HAVING WIDE AND NARROW LEAVES.

(Application filed Aug. 18, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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BOOK-SECTION HAVING WIDE AND NARROW LEAVES.

SPECIFICATION forming part of Letters Patent No. 697,495, dated April 15, 1902.

Application filed August 18, 1899. Serial No. 727,717. (No model.)

To all whom it may concern:

Be it known that we, ANSON O. KITTREDGE and ERNEST R. KITTREDGE, citizens of the United States, residing at Tenafly, county of Bergen, State of New Jersey, have invented certain new and useful Improvements in Book - Sections Having Wide and Narrow Leaves, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The present invention relates to that class of permanently-bound books in which wide and narrow leaves are used to facilitate the making of numerous entries upon one or more of the narrow leaves in conjunction with an inscription upon the projecting margin of one of the wide leaves. Examples of such books are shown in Hopkins' patent, No. 228,637, granted June 8, 1880; Thomson's patent, No. 10,977, granted December 25, 1888, and in Brown and Kittredge's patent, No. 598,590, granted February 8, 1898, in which last the edges of the wide leaves are thickened in correspondence with the intermediate narrow leaves to make the edge of the book of the same thickness as the body.

The present invention is for a particular means of manufacturing such blank books, account-books, or other books having wide and narrow leaves, and we wholly disclaim the mere use of wide and narrow leaves or the thickening of the wide leaves, as well as anything embraced in the patents referred to. Such books when used for accounts and records of various kinds frequently require to be ruled in columns and headings printed upon the various columns or pages.

In most books having wide and narrow leaves a certain number of narrow leaves is bound intermediate to two of the wide leaves and are used in connection with a record or inscriptions upon the projecting margin of such leaves. It is found in practice that the demands of various businesses require more or less of the narrow leaves for use in connection with each of the wide leaves, and as such requirements cannot be anticipated so as to keep the books in stock considerable delay is often experienced in producing such books.

The present invention furnishes a means

of producing sections or book units of wide and narrow leaves at short notice and binding a series of such sections together to form the required book. This result is attained by folding sheets of suitable width to form narrow leaves in pairs which may be inserted within one another and preparing wide leaves in pairs by folding wider sheets for combination with such narrow leaves. The wide leaves are thus formed in pairs as well as the narrow leaves, and the connection of the leaves together when binding them permanently in a book is greatly facilitated by making them all in pairs. The number of narrow leaves between each pair of wide leaves is commonly the same in a given book, and to form a book from the prepared wide and narrow leaves the required number of the pairs of narrow leaves is inserted within one pair of the wide leaves to form a group, and a similar number of pairs of the narrow leaves is adjoined to such group to constitute therewith a single section of the book, and any number of such sections is permanently bound together to form the book. The margins of the wide leaves are all reinforced to agree with the thickness of the interposed leaves. This method of manufacture is especially useful in making ruled books with printed headings, as it greatly economizes the use of paper in making books with wide and narrow leaves.

Where the leaves of a book are formed of uniform size, large sheets may be printed and then repeatedly folded to produce a signature or section of leaves of the required dimensions, with the printed matter in the desired relation upon the several pages; but such folding of a sheet produces leaves of uniform size, and books having wide and narrow leaves can only be made by this method by forming the book wholly with wide leaves and trimming off those which require to be narrow. Such trimming of the leaves involves great waste of paper, and various attempts have been made to produce books of account by using single printed sheets of paper, as in loose-leaf ledgers, and folded sheets of paper, as in various other constructions; but the present invention has been devised to furnish at

short notice various combinations of wide and narrow leaves to form the book by using groups or sections having the wide and narrow leaves that may be required for a special purpose. By making only two leaves out of each sheet the leaves of a given kind of account-book may be printed and folded in pairs and kept in readiness to group together in sections of any desired size, the wide leaves required with books of this class being also furnished in pairs forming a part of each of the sections.

While the number of narrow leaves is commonly the same in the successive sections of a given book, demand frequently arises for an exceptional book in which a greater or less number of the narrow leaves is required for each section. In making a variety of such books no uniform system of printing and folding sheets to produce signatures or groups of wide and narrow leaves can therefore be employed; but in the present invention such variety is secured by manufacturing the elements of the group separately and combining them into sections of the desired character. Books in great variety can thus be manufactured at short notice from the same materials previously prepared. By this method narrow leaves can be combined with wider leaves of any desired width, and wide leaves of a given width can be combined with narrower leaves of any desired width. The edge of the wide leaf can be reinforced by various means to correspond with the thickness of the annexed group of narrow leaves and the book be thus made of uniform thickness throughout. Such thickening is best effected by folding over the edge of the wide leaf or otherwise forming upon its margin a hollow pocket adapted to receive a filler of any desired thickness, and the thickening may thus be effected after the groups are assembled in exact agreement with the thickness of the narrow leaves in the group.

The invention will be understood by reference to the annexed drawings, in which—

Figure 1 is an end view of an open book with the leaves separated at the left side to show the disposition of the wide and narrow leaves. Fig. 2 represents in perspective a pair of the narrow leaves from such book formed from a single sheet; Fig. 3, a group comprising two wide leaves with three pairs of narrow leaves inserted within the fold of the same. Fig. 4 is an end view of the edge of the wide leaf, upon a larger scale, showing the pocket upon the same to receive a filler or thickener. Fig. 5 is an end view of a group of the sections such as would be used in forming a book of sections.

a designates the narrow leaves, (shown in Fig. 2,) formed by once folding a sheet of paper of suitable width.

b designates the wide leaves, the pairs of which, as shown in Fig. 3, are also formed by once folding a sheet of paper of suitable width. Each edge of the wide leaf is rein-

forced by a pocket. An integral flap *c* is shown in Fig. 4 folded over and its edge secured to the face of the leaf to form the pocket *d*. Such pocket being expansible is adapted to receive a strip of paper or pasteboard of any desired thickness. The visible surfaces of the wide and narrow leaves are shown ruled in Fig. 3, and such ruling is readily effected upon the sheets before they are folded.

Fig. 5 shows in a diagrammatic form three sections adapted to make a book of forty-two leaves, with six narrow leaves for use with each of the wide ones. Each of the sections comprises one of the groups shown in Fig. 3 and designated collectively *g* in Fig. 5, with three pairs of the narrow leaves adjoined to the left-hand side of each group and designated collectively *f*. With this arrangement the thickener upon each of the wide leaves compensates in the binding of the book for the pairs of narrow leaves at one side of such wide leaf. The formation of all the leaves in pairs and the formation of the sections with groups of such pairs greatly facilitates the securing of the leaves in the permanent binding of the book, while it affords all the advantages above described for selecting the elements of the book from stock previously prepared by ruling and printing.

From the above description it will be readily seen that the wide and narrow leaves may be manufactured in integral pairs and kept in stock in such variety of widths as is necessary and may at short notice be combined together in groups or sections of any desired magnitude or number of leaves. Such sections then constitute book units, which may then be bound together in any desired number to form a book of the required character. Sections or units of different character may with the same facility be just as readily made and combined in the same book, and the books are thus constructed without cutting the paper to waste or requiring any material alteration in the leaves after the book is bound. Where books require uniform printing or ruling, but vary in the number of leaves in the different units, the leaves may be made by printing and ruling sheets of suitable size and then folding such sheets to form integral pairs of the wide or narrow leaves and carrying the same in stock until a given book is ordered and the capacity of the book is known.

Having thus set forth the nature of the invention, what is claimed herein is—

1. A book having wide and narrow leaves with an integral flap upon the margin of each of the wide leaves folded uniformly backward to thicken the edge and to produce a level and unobstructed writing-surface upon all of the said leaves upon the same side thereof.

2. A sheet folded to form two leaves of equal width and having the margin of each leaf folded over to form an integral flap, and the longitudinal edge of such flap being secured to the face of the leaf to form a longitudinal pocket having openings at the ends only.

3. A sheet having marginal flaps upon two opposite edges folded over in reverse directions and secured to the opposite faces of the sheets, whereby when the sheet is folded between such margins to form two leaves, the marginal flaps are on the same sides of such leaves.

4. A bound book containing sections each consisting of the group *g* formed of an integral pair of wide leaves with their margins thickened, with a series of integral pairs of narrow leaves inserted in the fold of such wide leaves, and a similar series *f* of pairs of nar-

row leaves adjoined to the side of such group, whereby the thickener upon each of the wide leaves compensates for the narrow leaves at one side of such wide leaf.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

ANSON O. KITTREDGE.
ERNEST R. KITTREDGE.

Witnesses:

JOHN J. MCBRIDE,
THOMAS S. CRANE.