

No. 691,757.

Patented Jan. 28, 1902.

W. M. GAMBLE.

LEAF HINGE.

(Application filed Apr. 29, 1901.)

(No Model.)

Fig. 1.

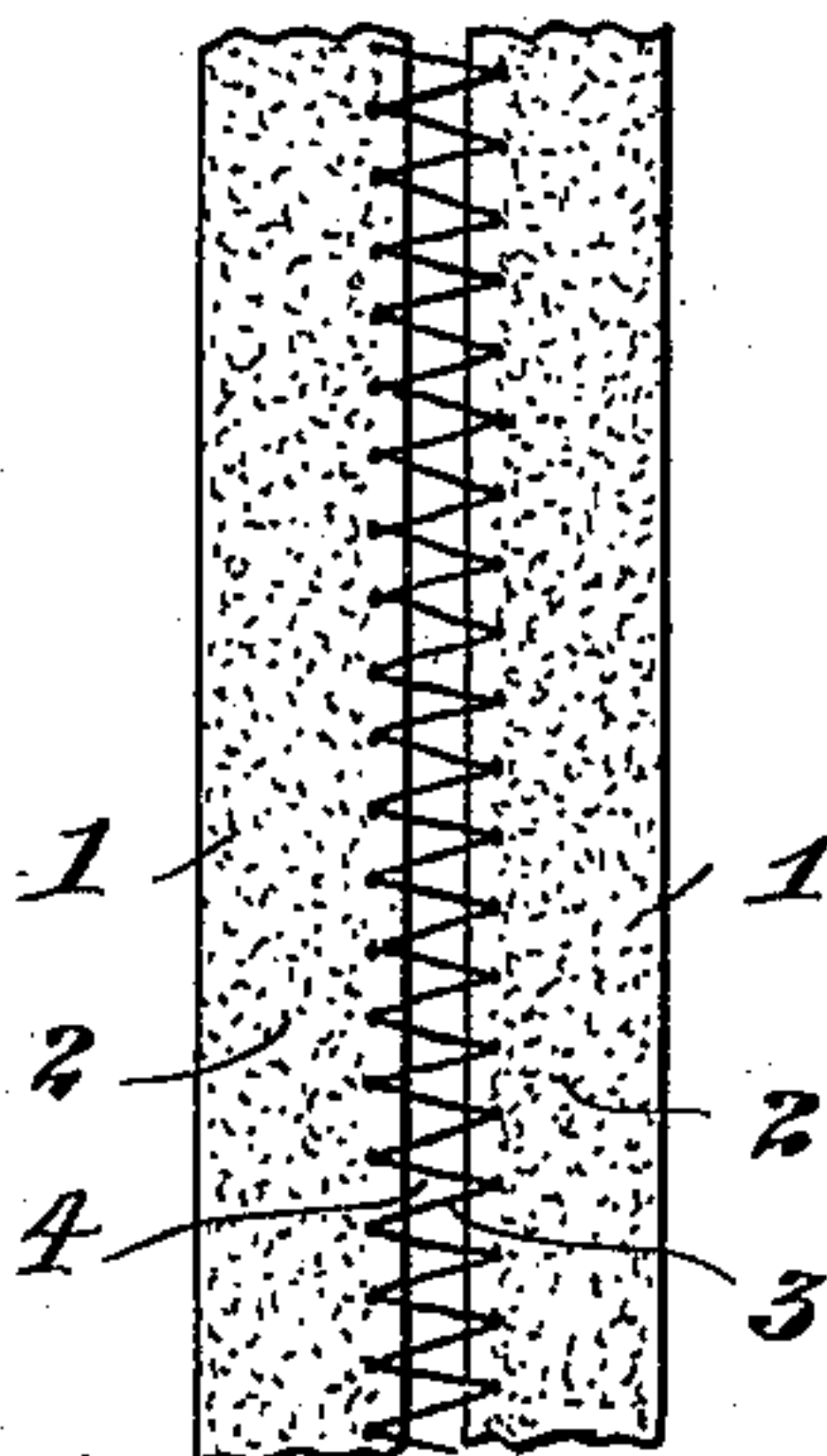


Fig. 2.

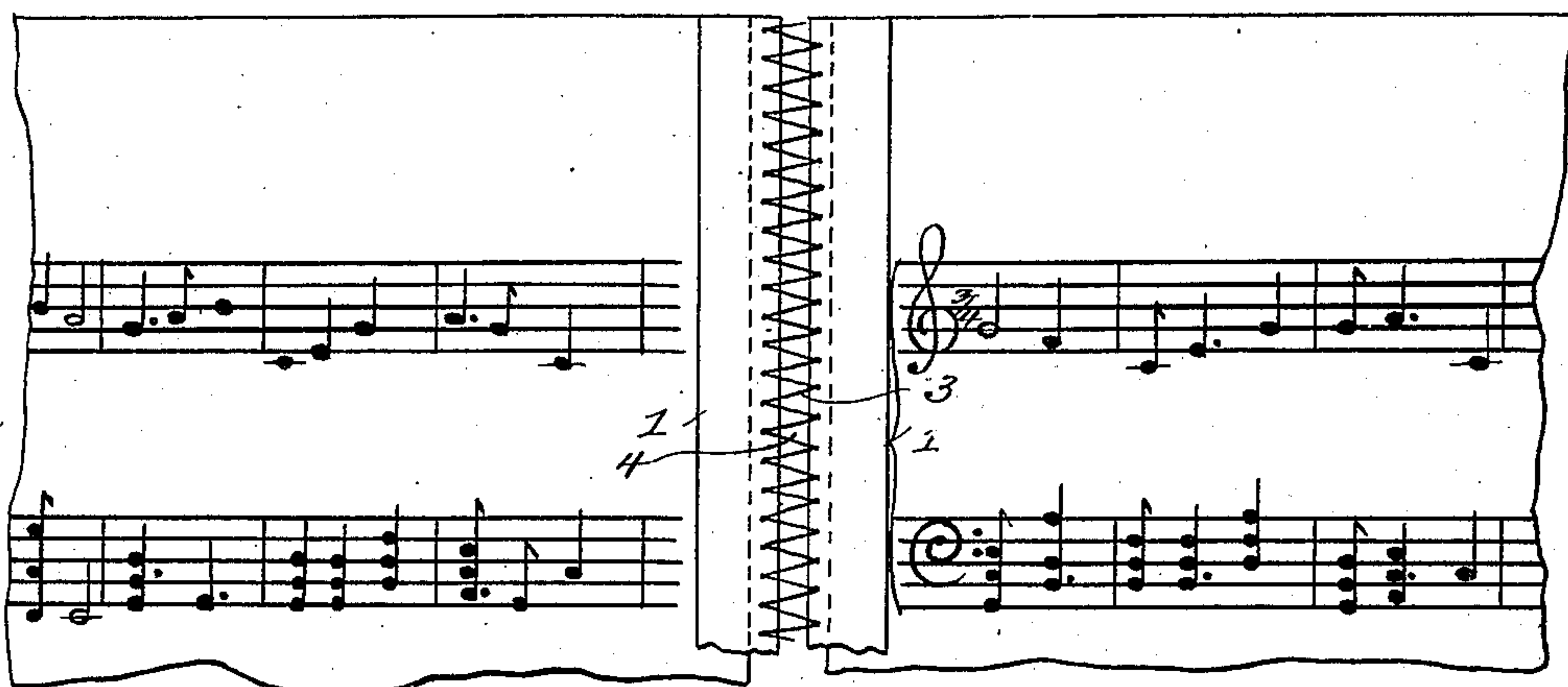
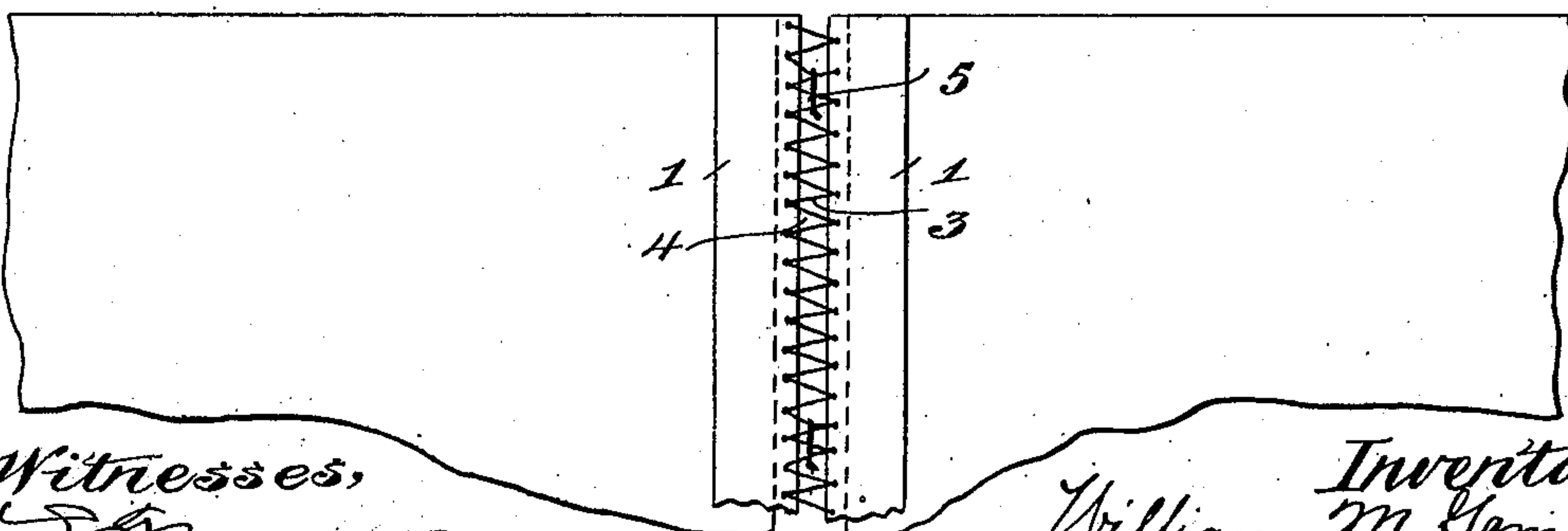


Fig. 3.



Fig. 4.



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Fig. 5.

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LEAF-HINGE.

SPECIFICATION forming part of Letters Patent No. 691,757, dated January 28, 1902.

Application filed April 29, 1901. Serial No. 57,940. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. GAMBLE, of Chicago, county of Cook, and State of Illinois, have invented certain new and useful
5 Improvements in Leaf-Hinges, of which the following is a specification.

This invention relates to improvements in leaf-hinges or binders adapted for flexibly securing together leaves and the like, the invention relating more specifically to an improved
10 form of binder formed of gummed strips flexibly united with each other and adapted to be applied to form a leaf-hinge and for analogous uses.

15 The object of the invention is to provide a simple, inexpensive, and always-ready device of the character referred to which will form a very durable and at the same time extremely-convenient hinge or means for flexibly uniting
20 two or more leaves or analogous objects.

To this end the invention consists in the matters hereinafter described, and more particularly pointed out in the appended claims, and will be readily understood from the following description, reference being had to the
25 accompanying drawings, wherein—

Figure 1 is a plan view of a section of my improved leaf-hinge. Fig. 2 is a plan view of the same applied to unite two leaves or
30 sheets—for example, sheets of music. Fig. 3 is an end or edge view of the parts shown in Fig. 2; and Fig. 4 is a view similar to Fig. 3, showing a plurality of pairs of leaves secured together by the use of my leaf-hinge. Fig. 5
35 is a plan view showing a plurality of pairs of leaves secured together.

Referring to the drawings, 1 1 designate a pair of strips of tape or other suitable flexible and tough fabric or sheet material adapted to
40 be coated on one side with a suitable gum, as indicated by the stipple shading at 2, and capable of holding with considerable firmness threads stitched through the margins thereof, as indicated at 3. Preferably the strips 1 are
45 of woven tape having selvage or finished edges. In order to unite said strips to form a flexible hinge, they are stitched together in such a manner that the stitches extend back and forth from edge to edge and unite and
50 hold the strips together with a distinct interval or space 4 interwoven between their proximate edges. Preferably and in practically

carrying out the invention I employ a sewing-machine provided with an attachment which places the stitches alternately in the
55 edge of one strip and then in the edge of the other in zigzag relation to each other, machines of this character now being in common use in various arts. By the use of a machine of this character the stitches are placed
60 uniformly and are of exactly equal length, so that the proximate edges of the tapes are secured at a definite and uniform distance apart throughout the length of the tape. Having thus united the pair of tapes, I provide
65 one surface of each tape with a coating of suitable gum or mucilage.

In using the device for uniting two leaves of sheet-music or analogous sheets the gummed surfaces are simply moistened and the two
70 tapes applied to the respective edges of the sheets which are to be joined, as best shown in Figs. 2 and 3, care being taken that the proximate edges be not arranged to extend over the hinge portion formed by the stitches.
75 In case it be desired to unite a plurality of pairs of sheets into a single signature or book, this may be conveniently accomplished by tacking the pairs together by means of thread, wire, or the like passed back and forth through
80 the hinges of the several pairs and tied or otherwise suitably secured, as indicated in Fig. 5, or a plurality of such pairs may be united by stitching through the hinged portions of the pairs a line of longitudinally-extending
85 stitches—as, for example, by the use of an ordinary lock-stitch sewing-machine.

A leaf-hinge constructed in accordance with my invention forms an extremely simple and efficient means of readily uniting sheets of
90 music and the like and is at the same time extremely economical, for the reason that the tapes need only be of sufficient width to afford a proper hold upon the sheets. Obviously a hinge formed in this manner will out-
95 last the life of any ordinary sheet. The provision of the space between the proximate edges of the tapes (and the leaves when the latter are united thereby) is of greatest importance, since the flexibility of the threads
100 extending across such space permits the utmost freedom of movement of one sheet with relation to and independently of the other. This feature, particularly when the device is

used as a means of uniting sheets of music, is obviously of greatest importance, since it enables the leaves to be turned with the utmost expedition.

5 A further feature of advantage of the construction is that it enables me to supply the article in the form of a continuous roll of tape rolled up in the manner in which narrow
10 tapes are commonly rolled, and thus extremely convenient for the user, who simply cuts off a section of the desired length when he has occasion to use the same. The fact that the tapes are of but a single thickness and united by thread in the manner described
15 enables the article to be formed into rolls in the manner described with great facility.

I am aware that it has heretofore been proposed to secure leaves together by means of two strips of fabric stitched together, back to
20 back, along their longitudinal axes, thereby providing flaps or securing portions to be applied to both sides of the two sheets to be united. This construction, however, does not possess the advantages of my invention, for
25 the reason that the strips are secured together back to back, and the extent of pliability of the hinge is practically measured by the pliability of the fabric itself, whereas in my invention the intervening space between
30 the two parts bridged only by the threads extending across the gap renders the hinge not only more pliable, but also affords a freedom of movement of the edge of one sheet relative to that of the other, which greatly facilitates
35 the turning of the leaf. Furthermore, with

my present construction I provide a hinge strong enough for all practical purposes and obviously much stronger than the leaf to which it will usually be applied by the use of practically one-half the amount of fabric re- 40 quired in the previously known construction above referred to. I do not, however, wish to be understood as disclaiming a construction in which two strips are secured together
45 along longitudinal axes located within the margins of the strips and whereby the strips may be subsequently applied to both sides of the respective sheets if said sheets be secured by stitches extending across a distinct space in accordance with my invention. 50

I claim as my invention—

1. As a new article of manufacture, a leaf-hinge comprising two strips of fabric, each coated on one side with adhesive material and united at their contiguous edges by means 55 of threads extending from one to the other, said contiguous edges being separated by a distinct space across which the threads extend to form the hinge, as set forth.

2. As a new article of manufacture, a leaf- 60 hinge consisting of two strips of adhesive sheet material arranged in parallel relation and at a sufficient distance apart to provide an open intervening space and united by means of a series of thread-stitches of uni- 65 form length extending across said space.

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